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Pension World®

The Magazine for Plan Sponsors and Investment Managers/ A Publication of Communication Channels, Inc.

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Public Employee Plans Today

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Investment Survey of Statewide Retirement Systems

August 1987 Pension World

Pension World

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Volume 23, Number 8

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Features

Public employee plans and the Internal Revenue Code of 1986
Joseph G. Metz
State and local government plans must comply with certain Code provisions. 14

Mortgage-backed securities win support from public pension funds
Clarence C. Elebash
A study of investment policies of states that invest in mortgage-backed securities. 22

What plan sponsors say about venture capital today
Ronald Derven
Three plan sponsor representatives talk about their venture capital investment styles. 26

Six tips for administering 401(k) plans
Stephanie Enright
Rule number one: "Don't expect miracles . . ." 30

Cases & Rulings: Federal law vs. state law: Recent developments in ERISA preemption
Rory Judd Albert and *Neal S. Schelberg*
A look at two recent Supreme Court decisions. 33

1987 Investment Survey of Statewide Retirement Systems
Compiled by Pension World *staff*
This survey details the investment practices of 66 systems in 42 states. 35

Perspective on Investments: How to structure an investment management program
Eugene B. Burroughs
To identify a client's appropriate management structure, ask questions. 44

Current Issues in Plan Design: States grapple with health care cost crunch
John P. Mackin
Results of Martin E. Segal Company's latest study of state employee health benefit plans. 50

Departments

Calendar	48	Executive Suite	12	Pension World News	8
Editorial	4	Pension Resources	49	Washington Commentary	6

Cover: **Design by Henry Mitchell; seals courtesy of the states represented.**

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Mortgage-backed securities win support from public pension funds

State retirement systems are likely to hold a higher percentage of assets in mortgage securities than corporate pension funds.

State retirement systems play a major role in the financial markets. They control over $400 billion of the almost $2 trillion of private and public pension assets in the U.S. today. Overall, state plans hold about 15 percent of their assets in mortgage securities, as compared to only five percent for private pension plans.

State plans sometimes come under political pressure to buy larger amounts of mortgage securities. State plans are also pressured to invest in mortgages and other securities that are originated in their state. These pressures often are reflected in the plan's investment policy statements.

This article reports on an analysis of state pension plan investment policy statements and their mortgage holdings. The study covered the policy statements of 60 plans from 32 states. The conclusion of the analysis is that most state plans have policy statements that encourage mortgages either directly or indirectly and these state plans invest much higher percentages of their assets in mortgages than do plans whose policy statements do not include some kind of an endorsement of mortgage securities.

State statutes and regulations govern the investment of state pension assets. In general, state laws allow considerable flexibility but they are not as permissive as ERISA is for private plans. It is not unusual for state laws to limit investment in some types of securities and to require investment in certain other types. Statutes and regulations are frequently supplemented with investment policy statements.

State retirement system investments tend to be more conservative than the investments of private pension funds. This is illustrated by a comparison of equity holdings between public and private plans. In 1985, state plans held about one-third of their assets in common stock. This is up from about 20 percent only a few years ago. On the other hand, private pension funds typically put 50 to 60 percent of their assets in equity.

State pension plans may hold a higher percent of their assets in mortgages than do private plans simply because the state plans take larger positions in fixed income securities. A larger commitment to debt instruments provides room in their portfolios for more mortgage-backed securities. If the state funds were to increase their equity portfolios, they might do so at the expense of their mortgage holdings. A breakdown of public pension fund investments is provided in Table 1.

by **CLARENCE C. ELEBASH**
Associate Professor
University of West Florida
Pensacola, Fla.

Mortgage-backed securities

State pension plans own some individual mortgages but the principal vehicles for their mortgage investments are mortgage-backed securities that are traded in the secondary market. The prime instruments in the secondary mortgage market are the popular "pass-through" securities sponsored by federal agencies.

In addition to these usual "pass-throughs," public agencies and investment bankers regularly offer new mortgage products in an effort to attract pension investors. A recent successful innovation is the collateralized mortgage obligation or CMO, which reduces some maturity uncertainties associated with mortgage-backed securities.

The secondary market for mortgage-backed securities is active and growing. They are traded on a continuous basis and the market is large. As of December 1986, the estimated outstanding amounts were:[1]

Table 1 Public Pension Fund Investments 1985

Asset Class	Amount	Percent
Cash and equivalents	$34 billion	8%
Common stocks	139	33
Bonds	160	38
Mortgage securities	52	12
Equity real estate	11	3
Other investments	24	6
Total	$420 billion	100%

Note: These data include local government pension funds as well as state pension funds.

Source: Public Pension Funds 1986: Report to Participants. Greenwich Associates, Greenwich, Conn. 1986, p. 10.

Table 2 Comparison of Returns on Treasury and Corporate Bonds and Ginnie Maes

	Yields				
Year	U.S. Treasury Bonds (Composite)[1]	Spread	Corporate Bonds[2] (Aaa)	Spread	Ginnie Maes[3]
1977	7.06	0.96	8.02	0.02	8.04
78	7.89	0.84	8.73	0.25	8.98
79	8.74	0.89	9.63	0.59	10.22
80	10.81	1.13	11.94	0.61	12.55
81	12.87	1.30	14.17	1.12	15.29
82	12.23	1.56	13.79	0.89	14.68
83	10.84	1.20	12.04	0.21	12.25
84	11.99	0.72	12.71	0.42	13.13
85	10.75	0.62	11.37	0.24	11.61
86	8.14	0.88	9.02	0.28	9.30
Average =	10.13	1.01	11.14	0.46	11.61
Std Dev =	1.93		2.06		2.31

[1]All outstanding bonds neither due nor callable in less than 10 years.
[2]Selected long-term bonds.
[3]Assumed prepayment in 12 years on pools of 30-year mortgages.

Source: Board of Governors of the Federal Reserve System, *Federal Reserve Bulletin.*

Table 3 Policy Statement Categories

Category	Number of statements[1]	Total assets ($ billions)	Amount of mortgages ($ billions)	Percent of total assets in mortgages
A. Mortgages authorized in policy statement	27	$158.9	$23.6	14.8%
B. Maximum, minimum or range of percentages in mortgages or real estate specified or allowed	13	$ 89.3	$15.1	17.0%
C. In-state investments supported	19	$122.4	$20.2	16.5%
D. Mortgages, percentages or in-state investments *not* mentioned	10	$ 27.9	$ 2.4	8.0%
All plans with policy statements	42	$202.8	$29.3	14.5%

[1]Do not add to total because many plans were in more than one category.

Ginnie Maes	$258 billion
Freddie Macs	165
Fannie Maes	85
CMOs	11
	$519 billion

Mortgage-backed securities consistently promise higher returns than U.S. Treasury bonds and high grade corporate bonds. Table 2 compares the promised yields for the past ten years.

There are some difficulties from the investor's point of view, however. Although they provide attractive returns and are virtually free of default risk, mortgage-backed securities have indefinite maturities and no call protection and can cause accounting problems.

Pluses and minuses

Mortgage-backed securities are attractive investments for state retirement plans for several reasons:

1. High return and no default risk. In addition to having higher yields than comparable securities, government guarantees make mortgage-backed securities essentially free of default risk.

2. Diversification. The addition of another class of security to a portfolio increases diversification. Mortgage-backed security returns are less than perfectly correlated with stock and bond returns and thereby reduce portfolio volatility when they are added to a portfolio.

3. Promotion of desirable social goals. Funds for home loans are freed when pension funds and other investors buy mortgage-backed securities. The liquid assets of primary lenders (e.g., savings and loans) are replenished when their mortgages are resold to mortgage pools. Home building is an attractive political objective, and it is not unusual for elected officials and lobbying groups to put pressure on state plan trustees to increase mortgage investments. Whereas ERISA shields private pension plans from politically motivated investing, state plan assets are an appealing target for special interest groups favoring "good causes."

Nevertheless, increased state pension investments in mortgage-backed securities may be inhibited by several considerations:

1. Unattractive risk-adjusted returns. Although the nominal returns on mortgage-backed securities are high and they are free of default risk, the nominal return may

not be so appealing when adjusted for other investment risks and certain complexities.

2. Complexities of mortgage-backed securities. Indefinite maturities and lack of call protection discourage pension funds from investing in mortgage pools. Homeowners almost always have the privilege of calling in their loans early with the payment of modest prepayment fees. Although the average maturity of mortgage-backed securities can be estimated from experience, periods of sharply lower interest rates create significant reinvestment risk for mortgage holders. When interest rates drop, investors get repaid at precisely the time when they do not want their money back—at a time when they have to reinvest at reduced returns. This is critical for plans that aim to match asset maturities with liability maturities at "locked in" rates of return.

These factors affect the attitudes of state trustees and investment managers. The trustees and managers are influenced by political as well as investment objectives.

Most state pension plans have some form of investment policy statement. The statement may stand alone, it may be incorporated into another document or even be specified in state law. Policy statements themselves usually include a description of the plan, risk and return objectives, type of management, authorized investments, prohibited investments, maybe some required investments and the plan for allocating assets among classes of securities and investment managers. Sometimes a policy statement will apply to several retirement plans in the same state.

Policy statements may influence the extent of mortgage investments by:

1. explicitly authorizing them as an investment. Some statements include mortgages as a separate group and others just list them with other fixed-income securities.

2. specifying a minimum, maximum or range of percent of assets that are allowed or required for mortgages or real estate. Percentages stated in terms of real estate, rather than in mortgages, will still encourage mortgage investments because mortgages are the easiest way for pension plans to invest in real estate.

3. encouraging in-state investments. This tends to encourage mortgage holdings because mortgages are a convenient way to invest in-state. It is relatively easy to form pools of mortgages that are all originated in the same state.

"Although the average maturity of mortgage-backed securities can be estimated from experience, periods of sharply lower interest rates create significant reinvestment risk for mortgage holders."

Study of policy statements

In July 1986, the author began a study to determine the extent to which trustee and manager attitudes toward mortgage securities are reflected in their investment policy statements. The study also investigated the relationship between policy statement treatment of mortgages and actual mortgage holdings.

The author asked 90 state retirement systems for a copy of their investment policy statements in order to determine the extent of policy directions regarding mortgage investments. There were 42 replies from 32 states. These statements covered over 60 separate plans with total assets of $203 billion, which was about 60 percent of the assets of all state pension plans at the time of the survey.

Most responses were in the form of policy statements, but some systems furnished copies of statues because their investment policies are spelled out in law. In other instances, respondents forwarded state regulations and annual reports which contained their investment policy.

An analysis of both these statements and the mortgage assets of the funds forms the basis of the article. The author reviewed all statements and tabulated the number that authorized mortgages as an investment, the number that specified or allowed a certain percent of assets (minimum, maximum or range) to be invested in mortgage securities or real estate, and the number that encouraged in-state investments with or without a specific reference to mortgages.

Findings

An unexpected discovery of this study was the almost total absence of state statutory requirements regarding mortgage investments. Only California has such a requirement. Several years ago the California legislature mandated that California systems invest 25 percent of all new contributions in mortgages on California property. Apparently no other state has a similar law.[2]

Only the policy statements of Alaska actually required a minimum amount of mortgage securities. The Alaska plan statements required a minimum of 10 percent of plan assets to be in mortgages but not necessarily in Alaska mortgages.

An analysis of all 42 policy statements is summarized in Table 3. The table compares the mortgage holdings of plans who policy statements mention mortgages with those whose policy statements do not encourage mortgages. As noted on the table, there is considerable overlap among the categories of policy statements that encourage mortgages; that is, a number of plans encouraged mortgages in more than one way.

The summary in Table 3 indicates that plans with policy statements that authorize mortgage investments, suggest percentages of assets to be invested in mortgages or real estate, and support in-state investments (Categories A, B and C) do invest more in mortages than other plans, i.e., plans with policy statements that do not encourage mortgage investments (Category D). Furthermore, the use of percentages and the support of in-state investments (Categories B and C) apparently have a stronger positive relationship with mortgage investments than just the authorization of mortgages as an investment (Category A).

Conclusion

State pension plans invest a higher percent of their assets in mortgage securities than do private plans, and it seems that they really are serious about maintaining a

Continued on page 28

easy but it is possible. "The fathers of venture capital tell us that you have to wait 10 years to determine what the return on a partnership is," he suggests. "They are absolutely right and I won't argue with them. I am not, however, aware of any senior corporate manager who will stand still for that. They want to know how things are going."

AT&T has a two-pronged approach to monitoring performance. It does compute monthly performance of a portfolio of partnership investments. These are linked for quarterly rates and annual rates of return.

"We measure the investment managers and our company-directed account in the same manner as we measure the performance of stock and bond managers," he says. "We are not overly concerned about a quarterly or annual rate."

Cash is excluded from the calculations. He says that when cash is given to a stock or bond manager, it can be put to work in those markets immediately. The manager's decision to hold cash is an investment decision. On the other hand, when money is given to a venture capital manager, cash may sit in that account for future cash calls or other reasons—it is really not part of an investment decision.

AT&T computes the internal rate of return for each partnership from inception to date. This return is based on actual cash flows. It excludes the general partners' carry and it excludes fees and expenses paid to the partnership.

AT&T instituted what it terms the "vintage year" concept. "What we have done is taken all of the partnerships that we invested in either directly or through investment managers in a given year. All of the partnerships where the first cash call was made in 1980, for example, are combined and treated as if they were one investment. We then calculate the internal rate on that 'investment.' We include all of the cash flows. We look at the terminal value on June 30th and that is the number we have on our books. It is like trying to appraise real estate."

Choosing a partnership

Richard W. Worthing, vice president-equity investments, the St. Paul Companies Inc., says that his firm's venture capital operation has about $100 million committed, $41 million taken down—all of it in partnerships. The plan is to move the partnership portfolio up to $250 million to $300 million in the future and also to move into direct investment.

In deciding on a partnership, Mr. Worthing asks a lot of questions. "We want good returns a number of years out. Our needs really involve diversifying our portfolio across a variety of stages of investment and a variety of industry types."

When he is contacted about a new partnership, he has specific criteria that he looks at. "We look at the focus of the fund. Does it do what we need in terms of diversification? Does it make sense in terms of the marketplace and in terms of pricing?"

Mr. Worthing wants to know if the people handling the partnership have experience in their particular focus or are simply running from what used to be the computer business to the medical business because that is hotter and not so risky.

"We look at whether or not they are practicing venture capitalists," he continues. "Do they add positive value to the companies they are involved with?

"Do the venture capitalists have a substantial record in terms of performance? We have invested in a number of first funds but everyone we have invested with has a record—either within a corporate or in another business setting."

The St. Paul Companies looks for significant deal flow. If it is a special purpose fund, it wants to see that the deal flow is concentrated in that area.

"I check their references with people who are not on the list of references they furnish," he says. "I presume they are all good references but I want to talk with prior bosses, bankers who funded LBOs that they did. I want to talk with people who worked with them in a negotiating sense to see how they are to deal with."

Plan sponsors who have moved into venture capital investments stress that while it is important to do the homework on the investment itself, it is equally important to feel fully comfortable about the people with whom you are dealing because the time frame of the investment is long and because venture capital is really a people business. □

Mortgage-backed securities

Continued from page 25

substantial position in mortgages. Many state plans mention mortgages and real estate in their policy statements, either directly or indirectly, and these plans do invest more in mortgage securities. The additional percentages are significant, although there is substantial variation within the categories that encourage mortgages.

The state plans that invest the most in mortgage securities are those which authorize mortgage investments and also suggest some sort of percentage of assets for mortgages or real estate, have a policy of making in-state investments, or both. These policies have a more pronounced effect than just authorizing mortgages. □

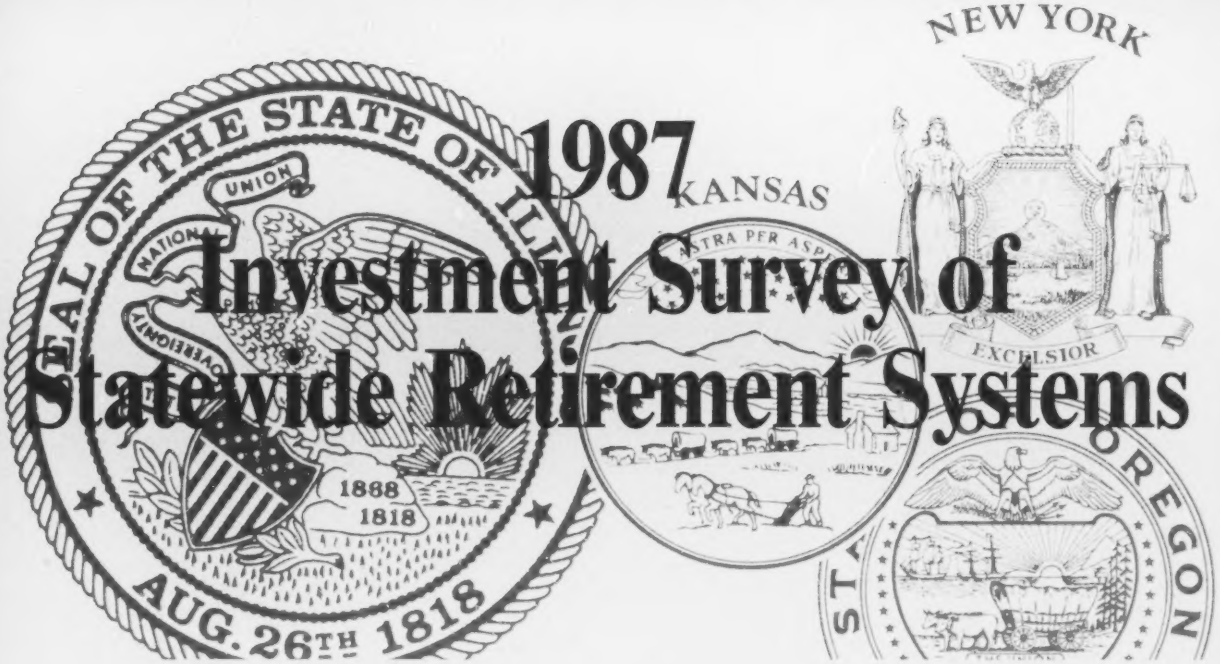
FOOTNOTES

1. *Prospects for Financial Markets in 1986,* Salomon Brothers, New York, December 1986, p. 59, Table 6.

2. *Public Pension Plans: The State Regulatory Framework,* National Council on Teacher Retirement, p. 32.

Clarence C. Elebash teaches investments and financial markets at the University of West Florida in Pensacola. He has served as trustee of a municipal pension fund for a number of years and has published a series of articles on pension fund investments. He holds degrees from the U.S. Military Academy, the University of Michigan Graduate School of Business and Florida State University. He is a Chartered Financial Analyst and a Certified Management Accountant.

This article is based on a study supported by a Mary Ball Washington Research Grant at the University of West Florida.



1987 Investment Survey of Statewide Retirement Systems

Pension World is pleased to resume publication of its Investment Survey of Statewide Retirement Systems in this issue. The survey provides information on the investment practices of public employee retirement systems, teacher and school employee retirement systems, police and firefighter retirement systems and local government employee systems. It does not cover systems of cities or individual municipalities.

In March 1987 we sent out questionnaires to 130 statewide systems. Of these, 61 questionnaires were returned, representing 66 systems in 42 states. The respondents included 24 statewide public employee retirement systems, 15 educational retirement systems, 15 "umbrella" systems and seven systems not falling into these categories.

Asset size ranged from $74.2 million for the Georgia Peace Officers' A&B Fund to $30.5 billion for the California Public Employees Retirement System. Because some systems reported assets at cost while others used market figures, we cannot sum total assets represented in the survey.

All but five of the systems reporting (two each in Indiana and West Virginia and one in South Carolina) invest in common and preferred stock. When this asset class is used, in all but nine funds it is the largest asset class. All but four respondents said they had investments in U.S. government securities and agencies. The other four grouped fixed income investments into one category.

Other investments used by most funds include corporate bonds, mortgages, other real estate investments, and short-term instruments and cash. Some funds also use guaranteed investment contracts, international investments (equity and fixed income), leveraged buyout funds and venture capital investments.

Forty-six funds have at least some internal management. In some cases this is limited to short-term cash management. Thirteen of the 46 funds are 100 percent internally managed.

Of the funds that use discretionary investment managers, the Virginia Supplemental Retirement System tops the list with 35, as well as internal managers. Other systems with a large number of outside investment managers are the Pennsylvania State Employees' Retirement System (30) and the Delaware State Employees' Retirement Fund, the Iowa Public Employees Retirement System, the New York State Employees' Retirement System/New York State Policemen's and Firemen's Retirement System and the Pennsylvania State Employees' Retirement System (28 each).

The following listings are based on information provided by the individual funds. While we have attempted to prepare this information as carefully as possible, *Pension World* assumes no responsibility for the accuracy of information presented here.

RETIREMENT SYSTEMS OF ALABAMA
135 South Union St.
Montgomery, AL 36130
Contact: Dr. David G. Bronner, Chief Executive Officer, (205) 261-5718

Information current as of 9/30/86

Total assets: $6.2 billion
Common and preferred stock: $405 million
U.S. government securities and agencies: $146.9 million
Corporate bonds: $2.5 billion
Mortgages: $1.3 billion—privately held, $361.9 million; government backed, $970 million
Cash and short-term securities: $844.4 million
Other investments: Canadian Bonds, $154.7 million; Guaranteed Investment Contracts, $20 million
Percent of fund internally managed: 100%
Investment advisors: AmSouth Bank

ALASKA RETIREMENT SYSTEMS
Treasury Division, Department of Revenue
P.O. Box 5B
Juneau, AK 99811
Contact: Kenneth L. Shaffer, State Investment Officer, (907) 465-2351

Information current as of 12/31/86; all figures at market value

Total assets: $3 billion
Common and preferred stock: $989 million
U.S. government securities and agencies: $766 million
Corporate bonds: $322 million
Mortgages: $352 million—privately held
Other real estate: $165 million
Cash and short-term securities: $428 million
Other investments: Included in common stocks is $223 million of international common stocks
Percent of fund internally managed: 62%
Discretionary investment managers: Fred Alger Mgmt.; Invesco Capital Mgmt.; Lehman Management Inc. (domestic); and Citicorp N.A. London and J. P. Morgan Investment Ltd. London (international)

ARIZONA STATE RETIREMENT SYSTEM
P.O. Box 33910
Phoenix, AZ 85067
Contact: Max Sullivan, Director, (602) 255-5131

Information current as of 6/30/86

Total assets: $4.6 billion
Common and preferred stock: $2 billion
U.S. government securities and agencies: $1.6 billion
Corporate bonds: $299.7 million
Mortgages: $225.2 million
Cash and short-term securities: $527.7 million
Percent of fund internally managed: 5% (short-term cash only)
Discretionary investment managers: Bernstein-Macaulay; Criterion Investment Management; Duff & Phelps Investment Mgmt.; Fiduciary Trust Co.; Invesco Capital Management; Kemper Financial Services; Valley National Bank; Wells Fargo Investment Advisors; State Street Bank & Trust Co.; Warburg Investment Management International Ltd.
Investment advisors: SEI Funds Evaluation Services; Wilshire Associates

ARKANSAS STATE HIGHWAY EMPLOYEES RETIREMENT SYSTEM
P.O. Box 2261
Little Rock, AR 72203
Contact: J. E. McCarthy, Executive Secretary, (501) 569-2412

Information current as of 3/31/87

Total assets: $214 million
Common and preferred stock: $79 million
U.S. government securities and agencies: $67 million
Corporate bonds: $58 million
Cash and short-term securities: $5 million
Other investments: Capital bank notes, $1 million
Percent of fund internally managed: 100%
Investment advisors: Loomis Sayles & Co., Inc.

ARKANSAS TEACHER RETIREMENT SYSTEM
Education Bldg. West
#3 Capitol Mall
Little Rock, AR 72201
Contact: Mrs. Mavolene C. Booth, Retirement Fund Investment Manager, (501) 371-1517

Information current as of 2/28/87

Total assets: $1.5 billion
Common and preferred stock: $529 million, convertible corporate bonds $2.9 million
U.S. government securities and agencies: $529.7 million
Corporate bonds: $104 million
Mortgages: $65.3 million—privately held, $56.7 million; government backed, $8.6 million
Cash and short-term securities: $228.7 million
Other investments: $611.4 thousand
Percent of fund internally managed: 15% (short-term)
Investment advisors: Oppenheimer Capital Corporation; First Commercial Bank

CALIFORNIA PUBLIC EMPLOYEES RETIREMENT SYSTEM
P.O. Box 2749
Sacramento, CA 95812
Contact: Greta Marshall, Investment Manager, (916) 326-3400

Information current as of 6/30/86

Total assets: $30.5 billion
Common and preferred stock: $7.9 billion
U.S. government securities and agencies: $2.7 billion
Corporate bonds: $5.8 billion
Mortgages: $10.6 billion—privately held, $3.3 billion; government backed, $7.3 billion
Other real estate: $1 billion
Cash and short-term securities: $1.9 billion
Other investments: $0.6 billion
Percent of fund internally managed: 90%
Discretionary investment managers: Atalanta-Sosnoff; Citicorp, Lazard Freres; Batterymarch; Rosenberg; Fidelity Bank; TSA; Dimensional Fund; First Chicago
Investment advisors: Heitman Realty; Richard Ellis; TCW Realty; FIA; Equitable; LaSalle

CALIFORNIA STATE TEACHERS' RETIREMENT SYSTEM
P.O. Box 15275-C
Sacramento, CA 95851
Contact: Larry D. Kurmel, Chief Executive Officer, (916) 386-3700

Information current as of 6/30/86; all figures at market value

Total assets: $20 billion
Common and preferred stock: $9.5 billion
U.S. government securities and agencies: $1.1 billion
Corporate bonds: $3.8 billion
Mortgages: $3.1 billion
Other real estate: $527.5 million
Cash and short-term securities: $2 billion
Other investments: $1.3 million
Discretionary investment managers: Denver Investment Advisors; Equitable Investment Management; Provident Investment Counsel; Wright Investors Service; Pilgrim, Baxter, Hoyt & Greig; Barrow, Hanley, Mewhinney & Strauss; Provident Capital Management; Trinity Investment Management; Wilmington Capital Management; Wells Fargo; Dimensional Fund Advisors; TCW Asset Management; Loomis Sayles & Company; Manufacturers Hanover Investment Corporation; Miller, Anderson & Sherrerd; Pacific Investment Management Corporation; Scudder, Stevens & Clark; T. Rowe Price Associates, Inc.; Stein Roe & Farnham
Investment advisors: Wilshire Associates; Pension Real Estate Services, Inc.; Eastdil Realty

PUBLIC EMPLOYEES' RETIREMENT ASSOCIATION OF COLORADO
1300 Logan St.
Denver, CO 80203
Contact: Norman Benedict, Deputy Executive Director, (303) 832-9550

Information current as of 12/31/86

Total assets: $6.3 billion (cost)
Common and preferred stock: $2.4 billion (cost)
U.S. government securities and agencies: $1.6 billion (cost)
Corporate bonds: $498.3 million (cost)
Mortgages: $606.2 million—privately held
Other real estate: $311.1 million
Cash and short-term securities: $612.7 million
Other investments: Guaranteed Insurance Contract $122 million (market)
Percent of fund internally managed: 100%
Investment advisors: Bankers Trust; Provident National Bank

COLORADO FIRE & POLICE PENSION ASSOCIATION
5290 DTC Pkwy.
Englewood, CO 80111
Contact: David A. Powers, Executive Director, (303) 770-3772

Information current as of 3/31/87; all figures at market value

Total assets: $488.5 million
Common and preferred stock: $233.6 million
U.S. government securities and agencies: $107.1 million
Corporate bonds: $41 million
Mortgages: $4.7 million—privately held, $245.9 thousand; government-backed, $4.5 million
Other real estate: $39.2 million
Cash and short-term securities: $62.8 million
Other investments: Venture capital, $800 thousand
Percent of fund internally managed: 15%
Investment advisors: Dremen Capital; Nicholas Applegate; Oppenheimer Capital; Wells Fargo; Investment Advisors; Bollinger & Company; Putnam Advisory; Delaware Investment Advisors and Mellon Real Estate Investment

CONNECTICUT TRUST FUNDS OFFICE OF THE TREASURER
20 Trinity St.
Hartford, CT 06106
Contact: F. P. McDermott, Deputy Treasurer-Investments, (203) 566-2166

Information current as of 2/28/87

Total assets: $5.4 billion
Common and preferred stock: $2.5 billion
U.S. government securities and agencies: $710 million
Corporate bonds: $710 million
Mortgages: $397.6 million—privately held, $42.6 million; government backed, $355 million
Other real estate: $648.6 million
Cash and short-term securities: $403.4 million
Other investments: GICs, $71.2 million
Percent of fund internally managed: 30%
Discretionary investment managers: Total, 30 — 14 in equities; 6 in fixed income and 10 in equity real estate

DELAWARE STATE EMPLOYEES' RETIREMENT FUND
P.O. Box 1401
Dover, DE 19903
Contact: Theodore H. Ashford, (302) 655-1750

Information current as of 6/30/86

Total assets: $1 billion
Common and preferred stock: $187.1 million
U.S. government securities and agencies: $9.6 million
Corporate bonds: $54.2 million
Real estate: $115.1 million
Cash and short-term securities: $192.1 million
Other investments: Pooled equity & fixed income, $425 million; Venture capital, $24.8 million
Discretionary investment managers: Bonds—Atlanta Capital Management Co.; Convertible Securities—Alliance Capital Management; Equity-Linked Investors, L.P.; Froley, Revy Investment Company; Fixed Income—Aetna Life Insurance Company; Mellon Capital Management; T. Rowe Price Associates, Inc.; Real Estate—Aetna Life Insurance Company; Citibank, N.A.; John Hancock; Stocks—Batterymarch Financial Management; Dawson-Henry Capital Management; Lincoln Capital Management; N. M. Rothschild Int'l Asset Management; T. Rowe Price Associates, Inc.; Tower Capital Management; Trinity Investment Management Corp.; Stocks & Bonds—Mellon Capital Management; Wells Fargo Bank, N.A.; Venture Capital—Accel Partners; Arscott, Norton & Associates; Brentwood Associates; Cherry Tree Ventures; Dougery, Jones & Wilder; Julian, Cole & Stein; Morgan Holland; Threshold Fund; Venad

FLORIDA STATE BOARD OF ADMINISTRATION
P.O. Drawer 5318
Tallahassee, FL 32314-5318
Contact: Fred E. Loopman, Acting Executive Director, (904) 488-4406

Information current as of 3/31/87; all figures at cost

Total assets: $11.4 billion
Common and preferred stock: $5.5 billion (book value)
U.S. government securities and agencies: $3.5 billion (including mortgages)
Corporate bonds: $1.1 billion (public & private)
Mortgages: $407.7 million—government backed
Other real estate: $487.8 million
Cash and short-term securities: $376.5 million
Other investments: Foreign fixed income (governments) $315.6 million, GICs $63.7 million, Convertibles $10.6 million
Percent of fund internally managed: 46%
Discretionary investment managers: Aetna Life Insurance, Alliance Capital Management, Ariel Capital Management, Barnett Banks Trust Company, Barrow, Hanley, Mewhinney & Strauss, Bear Stearns Asset Management, Delaware Investment Advisors, Denver Investment Advisors, Eagle Asset Management, Equitable Life Assurance Society, First National Bank of Chicago, Fred Alger Management Company, Goldman Sachs, IDS Growth Spectrum Advisors, John Hancock Mutual Life, Invesco Capital Management, LaSalle Partners, Lazard Freres Asset Management, Prudential Asset Management, Stein Roe and Farnham, Inc., Sun Bank and Trust Company, Wells Fargo Investment Advisors, Westwood Management Corporation
Investment advisors: Fourteen Research; Pradilla & Kerschner; Wells Fargo

GEORGIA STATE RETIREMENT SYSTEMS, DIV. OF INVESTMENT SERVICES
Two Northside 75
Atlanta, GA 30381
Contact: Graham R. Lynch, Director, (404) 656-2174

Information current as of 3/31/87

Total assets: $7.5 billion
Common and preferred stock: $2.6 billion (all common)
U.S. government securities and agencies: $2.8 billion
Corporate bonds: $1.6 billion
Mortgages: $32.1 million—privately held
Other real estate: $3.9 million
Cash and short-term securities: $425.4 million
Percent of fund internally managed: 100%
Investment advisors: C&S Investment Advisors; First Wachovia Investment Management; Trusco Capital Management; Invesco Capital Management; Thorndike, Doran, Paine & Lewis

TEACHERS RETIREMENT SYSTEM OF GEORGIA
Two Northside 75, Suite 400
Atlanta, GA 30381
Contact: Graham Lynch, Director, Investment Services, (404) 656-2151

Information current as of 2/28/87

Total assets: $5.4 billion
Common and preferred stock: $1.9 billion
U.S. government securities and agencies: $3.1 billion
Mortgages: $25 million
Other real estate: $1 million
Cash and short-term securities: $290 million
Percent of fund internally managed: 65%
Investment advisors: Citizens & Southern National Bank; Invesco Capital Management, Inc.; Trusco Capital Management; Thorndike, Doran, Paine and Lewis

PEACE OFFICERS' A&B FUND
P.O. Box 56
Griffin, GA 30224
Contact: Flynt Langford, (404) 228-8461

Information current as of 2/28/87

Total assets: $74.2 million
Common and preferred stock: $13.9 million
U.S. government securities and agencies: $20.6 million
Corporate bonds: $18.7 million
Mortgages: $65.7 thousand
Cash and short-term securities: $21 million
Discretionary investment manager: Thorndike, Doran, Paine & Lewis

GEORGIA FIREMEN'S PENSION FUND
720 Church St.
P.O. Box 1623
Decatur, GA 30030
Contact: James Stewart, Secretary/Treasurer, (404) 656-2030

Information current as of 2/28/87

Total assets: $80.4 million
Common and preferred stock: $25.4 million
U.S. government securities and agencies: $27.2 million
Corporate bonds: $1.9 million
Mortgages: $574.3 thousand—privately held
Other real estate: $125 thousand
Cash and short-term securities: $25.2 million
Percent of fund internally managed: 2.4%
Discretionary investment manager: First Wachovia Corp.
Investment advisors: First Wachovia Corp.

STATE OF HAWAII, EMPLOYEES' RETIREMENT SYSTEM
888 Mililani St., Suite 502
Honolulu, HI 96813
Contact: Stanley Siu, Executive Secretary, (808) 548-7593

Information current as of 12/31/86

Total assets: $2.9 billion
Common and preferred stock: $909.1 million
U.S. government securities and agencies: $648.5 million
Corporate bonds: $331 million
Mortgages: $383 million—privately held
Other real estate: $120 million
Cash and short-term securities: $281.6 million
Other investments: GICs - $120 million, Capital Notes - $44 million, U.S. Gov't. - $32.2 million
Percent of fund internally managed: 40%
Investment advisors: Alliance Capital Management Corp.; Atalanta/Sosnoff Capital Corp.; Barrow, Hanley, Mewhinney & Strauss, Inc.; Bernstein-Macaulay, Inc.; Delaware Investment Advisers, Inc.; Fayez Sarofim and Co.; Hanson Investment Management Co.; Invesco Capital Management; Lehman Management Co., Inc.; McCowan & Associates, Inc.; Mellon Capital Management Corp.; Pacific Investment Management Co.; Scudder, Stevens & Clark, Inc.; Security Pacific Investment Managers; Wentworth, Hauser and Violich

PUBLIC EMPLOYEE RETIREMENT SYSTEM OF IDAHO
820 Washington St.
Boise, ID 83702
Contact: Bill Reese, Controller, (208) 334-3365

Information current as of 12/31/86

Total assets: $1.1 billion
Common and preferred stock: $453.2 million
U.S. government securities and agencies: $31.2 million
Corporate bonds: $250.4 million
Mortgages: $69.5 million—privately held, $68.1 million; government backed, $1.4 million
Other real estate: $75.7 million
Cash and short-term securities: $184.4 million
Other investments: $45.4 million
Investment advisor: Frank Russell Trust Company

ILLINOIS STATE BOARD OF INVESTMENT
180 North LaSalle Street, Suite 2015
Chicago, IL 60601
Contact: Robert J. Harmon, Director, (312) 793-5710

Information current as of 12/31/86

Total assets: $2.4 billion
Common and preferred stock: $908 million
U.S. government securities and agencies: $539 million
Corporate bonds: $459 million
Mortgages: $5 million—privately held
Other real estate: $161 million
Cash and short-term securities: $231 million
Other investments: $282 million
Percent of fund internally managed: 70%
Investment advisors: Ariel, Cooke & Bieler; Disciplined; Fidelity; Lazard Freres; Lincoln Capital; Newbold's; Rothschild; Trinity; Trust Company of the West

ILLINOIS STATE UNIVERSITIES RETIREMENT SYSTEM
50 Gerty Dr.
Champaign, IL 61820
Contact: Kenneth E. Codlin, Investment Officer, (217) 333-3860

Information current as of 3/31/87; all figures at market value

Total assets: $2.9 billion
Common and preferred stock: $1.7 billion
U.S. government securities and agencies: $150 million
Corporate bonds: $200 million
Mortgages: $300 million—government backed
Other real estate: $260 million
Other investments: Commingled Bond Index Fund tracks Salomon Broad, $270 million; GIC $10 million
Discretionary investment managers: 2 equity; 1 fixed income; 2 real estate; 1 passive
Investment advisor: Ennis, Knupp & Associates

INDIANA PUBLIC EMPLOYEES' RETIREMENT FUND
143 W. Market St., Suite 800
Indianapolis, IN 46204
Contact: L. H. Earle II, Executive Sec., (317) 232-1615

Information current as of 2/28/87

Total assets: $2 billion
U.S. government securities and agencies: $900.5 million
Corporate bonds: $902.6 million
Mortgages: $124.6 million—government backed
Cash and short-term securities: $120 million
Discretionary investment managers: Banc One Indiana; Indiana National Bank; T. Rowe Price; Lehman Management Co.; Prime Capital Management

INDIANA STATE TEACHERS' RETIREMENT FUND
506 State Office Building
Indianapolis, IN 46204
Contact: Robert D. Newland, Investment Officer, (317) 232-3868

Information current as of 2/28/87; all figures at book value

Total assets: $1.3 billion
U.S. government securities and agencies: $489 million
Corporate bonds: $319 million
Mortgages: $403 million—government backed
Cash and short-term securities: $119 million
Discretionary investment managers: Alliance Capital Management; American Fletcher National Bank; Bank of New York; Indiana National Bank; Baxter & Hoops; Merchant Investment Counseling
Investment advisor: Todd Investment Advisors

IOWA PUBLIC EMPLOYEES RETIREMENT SYSTEM
600 E. Court
P.O. Box 9117
Des Moines, IA 50306
Contact: Larry Thompson, Investment Officer, (515) 281-5224

Information current as of 1/31/87; all figures at market value

Total assets: $3.7 billion
Common and preferred stock: $1.3 billion
Total fixed income: $2.2 billion
Real estate: $111.3 million
Cash and short-term securities: $23.9 million
Other investments: Venture capital, $5.3 million; KKR-LBO, $14.7 million
Percent of fund internally managed: 1%
Discretionary investment managers: Fixed income managers (long bonds) - J. P. Morgan Investment Management, Inc.; Loomis, Sayles & Company. Fixed income managers (active bonds) - The Boston Co.; Criterion Investment Management Co. Fixed income managers (mortgage bonds) - Miller, Anderson & Sherrerd. Equity managers (active diversified) - Capital Guardian Trust Co.; Wellington Management Co. Equity managers (active aggressive) - Provident Capital Management, Inc. Equity managers (complementary) - Batterymarch Financial Management; IDS Growth Spectrum Advisors; Prudential Asset Management Co.; Rosenberg Capital Management; Value Investors, Inc.; Mellon Capital Management. Equity Real Estate Pools - Copley Real Estate Advisory; Heitman Advisory; JMB Institutional Realty Corp.; Aldrich, Eastman & Waltch. Venture Capital Funds - R. W. Allsop & Associates; Cable & Howse Ventures; Steinberg & Lyman; Lawrence Venture Associates; Interven Partners; Invest America. LBO Funds - Kohlberg, Kravis, Roberts & Co.; TCW Special Placements Fund; Gibbons, Green, van Amerongen. Consultant - Wilshire Associates.
Investment advisor: Wilshire Associates

KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM
Capitol Tower - 2nd Fl.
400 W. 8th
Topeka, KS 66603
Contact: Marshall Crowther, Executive Secretary, (913) 232-6665

Information current as of 3/31/87; all figures at cost

Total assets: $2.8 billion
Common and preferred stock: $1 billion
U.S. government securities and agencies: $539.7 million
Corporate bonds: $453.4 million
Mortgages: MGIC pass-through $65.7 million
Other real estate: $59 million
Cash and short-term securities: $490.4 million
Other investments: Miscellaneous, $46 million; international equity, $63.1 million
Discretionary investment managers: Equity managers - Capital Supervisors; Investment & Capital Management; Pilgrim, Baxter & Greig; Provident Investment Counsel; Market Research & Management; Reimer & Koger Associates. Fixed income managers - Peters, Gamm & West; Pacific Investment Management Co.; Robert C. Brown & Co. Real Estate - J. W. O'Connor. International equity - Alliance Capital Management; Nomura Capital Management Private placements - Reimer & Koger; Peters Gamm & West. Domestic custodian - Commerce Bank & Trust. International custodian - Bankers Trust.

KENTUCKY RETIREMENT SYSTEMS
1260 Louisville Rd.
Frankfort, KY 40601
Contact: Bobby J. McKee, General Manager, (502) 564-4646

Information current as of 2/28/87; all figures at book value

Total assets: $2 billion
Common and preferred stock $595.7 million
U.S. government securities and agencies: $280.2 million
Corporate bonds: $237.5 million
Mortgages: $362.6 million—government backed
Other real estate: $74.6 million
Cash and short-term securities: $439.7 million
Percent of fund internally managed: 32%
Investment advisors: Capital Supervisors Inc., balanced advisor; Munder Capital Management Inc., fixed income advisor; Heitman Advisory Ltd., real estate

KENTUCKY TEACHERS' RETIREMENT SYSTEM
216 W. Main Street
Frankfort, KY 40601
Contact: Stuart Reagan, Deputy Executive Secretary, (502) 564-2057

Information current as of 2/28/87

Total assets: $2.4 billion
Common and preferred stock: $648.4 million
U.S. government securities and agencies: $812.8 million
Corporate bonds: $319.7 million
Mortgages: $232 million—government backed
Other real estate: $35.4 million
Cash and short-term securities: $325.9 million
Percent of fund internally managed: 8%
Investment advisors: Todd Investment Advisors; Invesco Capital Mgmt.; First Kentucky Co.

LOUISIANA SCHOOL EMPLOYEES' RETIREMENT SYSTEM
P.O. Box 44516, Capitol Station
Baton Rouge, LA 70804
Contact: Dr. Larry D. Quisenberry, Secretary-Treasurer, (504) 925-6484

Information current as of 12/31/86; all figures at market value

Total assets: $526.3 million
Common and preferred stock: $5.8 million
U.S. government securities and agencies: $279.4 million
Corporate bonds: $216.1 million
Mortgages: $6.7 million—government backed
Cash and short-term securities: $18.3 million
Percent of fund internally managed: 10%
Investment advisor: Hibernia National Bank

MARYLAND STATE RETIREMENT AND PENSION SYSTEM
301 W. Preston St.
Baltimore, MD 21201-2363
Contact: Howard J. France, Executive Director, State Investment Agency, (301) 225-1020

Information current as of 2/28/87; all figures at book value

Total assets: $6.6 billion
Common and preferred stock: $2.9 billion
U.S. government securities and agencies: $1 billion
Corporate bonds: $470.7 million
Mortgages: $943.7 million—privately held, $31.7 million; government backed, $879.1 million
Other real estate: $25 million
Cash and short-term securities: $319.8 million
Percent of fund internally managed: 48%
Discretionary investment managers: Fixed income—Investment Counselors; Mercantile Safe Deposit; Miller, Anderson & Sherrerd; Morgan Stanley Asset Management; Pacific Investment Management; Standish, Ayer & Wood; State Investment Agency. Large cap growth—Alliance Capital Management; Atalanta Capital; Eaton Vance; Investment Adviser; Mackay Shields. Large cap value—Capital Guardian, Hagler Mastrovita, Investment Counselors, State Street Bank & Trust. Small cap—DFA 6-7-8, DFA small company, Scudder Stevens & Clark, Wellington Trust.

STATE EMPLOYEES RETIREMENT SYSTEM OF MASSACHUSETTS
One Ashburton Place, Room 1219
Boston, MA 02108
Contact: James W. Callanan, Executive Secretary, (617) 367-7770

Information current as of 2/28/87

Total assets: $3.7 billion
Common and preferred stock: $1.2 billion
U.S. government securities and agencies: $534 million
Corporate bonds: $644 million
Mortgages: $500 million—government backed
Other real estate $23 million
Cash and short-term securities: $50 million
Other investments: Venture Capital, $15 million
Percent of fund internally managed: 70%
Discretionary investment managers: Eaton Vance Management; Gardner & Preston Mass; Independence Investment Associates; Hagler, Mastrovita & Hewitt; Invesco Capital Management
Investment advisors: Allan Fulkerson; Massachusetts Fiduciary Advisors, Inc.

MASSACHUSETTS TEACHERS & EMPLOYEES PENSION
One Ashburton Place, Room 1203
Boston, MA 02108
Contact: Alan West, Chief Investment Officer, (617) 367-3900, Ext. 220

Information current as of 12/31/86

Total assets: $3.5 billion
Common and preferred stock: $1 billion
U.S. government securities and agencies: $1.1 billion
Corporate bonds: $650 million
Mortgages: $450 million—government backed
Other real estate: $30 million
Cash and short-term securities: $60 million
Percent of fund internally managed: 90%
Discretionary investment managers: Endowment; Fiduciary Trust; Gardner Preston Mass; Loomis Sayles, Miller Anderson
Investment advisor: Massachusetts Fiduciary Advisors Inc.

BUREAU OF INVESTMENTS, MICHIGAN DEPT. OF TREASURY
(Includes Public School Employees Retirement System; State Employees Retirement System; State Police Pension, Accident and Disability Fund; Judges Retirement System; and Probate Judges' Retirement System)
P.O. Box 15128
Lansing, MI 48901
Contact: W. A. Amerman, Director of Investments, (517) 373-3140

Information current as of 2/28/87; all figures at market value

Total assets: $15 billion
Common and preferred stock: $6.8 billion
U.S. government securities and agencies: $2.5 billion
Corporate bonds: $1.6 billion
Mortgages: $1.5 billion—privately held, $217 million; government backed, $1.2 billion
Other real estate: $82 million
Cash and short-term securities: $2.7 billion
Percent of fund internally managed: 100%

PUBLIC EMPLOYEES RETIREMENT SYSTEM OF MISSISSIPPI
429 Mississippi St.
Jackson, MS 39201-1005
Contact: Eddie B. Vandiver, Deputy Director/Investments, (601) 359-2255

Information current as of 3/31/87; figures at market value

Total assets: $3.1 billion
Common and preferred stock: $888.5 million
U.S. government securities and agencies: $1.5 billion
Corporate bonds: $366 million
Cash and short-term securities: $300 million
Percent of fund internally managed: 10% (short-term and cash)
Discretionary investment managers: Dreyfus Management,Inc.; Lehman Management Co.; Pacific Investment Management Co.; Bankers Trust Co.; Invesco Capital Management, Inc.; Sun Bank, N.A.; Criterion Investment Management Co.; Manufacturers Hanover Investment Co.; Wells Fargo Investment Advisors; Fayez Sarofim & Co.; The Boston Co.

MISSOURI STATE EMPLOYEES' RETIREMENT SYSTEM
906 Leslie Blvd.
Jefferson City, MO 65101
Contact: Rosemary Eppenauer, Acting Executive Director, (314) 751-2342

Information current as of 2/27/87; all figures at cost

Total assets: $955.7 million
Common and preferred stock: $430.1 million
U.S. government securities and agencies: $67.1 million
Corporate bonds: $135.4 million
Mortgages: $35.6 million—privately held, $29.8 million; government backed, $5.8 million
Other real estate: $61.8 million
Cash and short-term securities: $218.8 million
Other investments: Venture capital, $6.9 million
Discretionary investment managers: Centerre Trust Co.; Loomis Sayles & Co., Inc.; Wentworth, Hauser & Violich Investment Counsel; Investors Research Corp.; Waddell & Reed Asset Management Co.; Alliance Capital Management Corp.; Delaware Investment Advisors; First Chicago Investment Advisors; Eastdil Advisors, Inc.

PUBLIC SCHOOL RETIREMENT SYSTEM OF MISSOURI
P.O. Box 268
Jefferson City, MO 65102

Information current as of 6/30/86; all figures at market value

Total assets: $3.8 billion
Common and preferred stock: $570.3 million
U.S. government securities and agencies: $764 million
Corporate bonds: $1.4 billion
Mortgages: $842.3 million—government backed
Cash and short-term securities: $198.8 million
Discretionary investment manager: Boatmens' National Bank
Investment advisor: Demarche Associates

LOCAL GOVERNMENT EMPLOYEES RETIREMENT SYSTEM OF MISSOURI
1913 William St.
P.O. Box 1665
Jefferson City, MO 65102
Contact: William R. Schwartz, Executive Secretary, (314) 751-3666

Information current as of 6/30/86

Total assets: $395 million
Common and preferred stock: $132 million
U.S. government securities and agencies: $120 million
Corporate bonds: $64 million
Mortgages: $52 million—government backed
Cash and short-term securities: $27 million
Investment advisors: Centerre Trust Co.; Delaware Investment Advisers; Hoisington Investment Management; Invesco Capital Management; Investment Advisers; Lehman Management Co.; Loomis, Sayles and Co.; United Missouri Investment Counsel Service

MONTANA PUBLIC EMPLOYEES' RETIREMENT DIVISION
1712 Ninth Ave.
Helena, MT 59601
Contact: Board of Investments, (406) 442-1970

Information current as of 3/31/87

Total assets: $605.5 million
Common and preferred stock: $58.8 million
U.S. government securities and agencies: $72.7 million
Corporate bonds: $300 million
Mortgages: $57.7 million
Other real estate: $252 thousand
Cash and short-term securities: $9 million
Other investments: Short-term investment pool - $55.4 million; long-term securities on loan - $31.1 million
Percent of fund internally managed: 100%

MONTANA TEACHERS' RETIREMENT SYSTEM
1500 6th Ave.
Helena, MT 59620
Contact: Board of Investments, (406) 442-1970

Information current as of 6/30/86

Total assets: $444.4 million
Common and preferred stock: $50.8 million
U.S. government securities and agencies: $54.7 million
Corporate bonds: $201.5 million
Mortgages: $54.6 million
Other real estate: $161.8 thousand
Cash and short-term securities: Cash, $8.2 million. Remaining assets—Accounts Receiva-

ble, $4.9 million; interest receivable, $8.2 million
Other investments: Securities, $53.6 million; deferred losses, $7.8 million
Discretionary investment manager: Board of Investments

STATE OF NEBRASKA INVESTMENT COUNCIL
941 "O" Street, Suite 107
Lincoln, NE 68508
Contact: Donald J. Mathes, State Investment Officer

Information current as of 12/31/86

Total assets: $672 million
Common and preferred stock: $256 million
U.S. government securities and agencies: $126 million
Corporate bonds: $80 million
Mortgages: $58 million—government backed
Cash and short-term securities: $48 million
Other investments: Insurance company contract, $104 million
Percent of fund internally managed: 80%
Investment advisor: Wilshire Associates

NEBRASKA STATE AND COUNTY RETIREMENT PLANS
P.O. Box 94903
Lincoln, NE 68509
Contact: Jack E. Nellson, Director, (402) 471-2053

Information current as of 3/31/87

Total assets: $201.4 million
Common and preferred stock: $2.4 million
Other investments: Balanced funds - $1.2 million; Evergreen Contract - GIC - $168.9 million; GICs - $28.9 million; Fixed - $18 thousand
Discretionary investment manager: Kirkpatrick-Pettis, Smith, Polian, Inc.
Investment advisor: Wilshire Associates

PUBLIC EMPLOYEES RETIREMENT SYSTEM OF NEVADA
693 W. Nye Lane
Carson City, NV 89701
Contact: Laura Wallace, Investment Officer, (702) 885-4200

Information current as of 2/28/87

Total assets: $2.1 billion
Common and preferred stock: $864 million
U.S. government securities and agencies: $423 million
Corporate bonds: $44 million
Mortgages: $340 million—privately held, $189 million; government backed, $151 million
Other real estate: $114 million
Cash and short-term securities: $283 million
Other investments: Venture capital, $5.1 million; Options, $1.9 million
Percent of fund internally managed: 4%
Discretionary investment managers: Criterion; Loomis-Sayles; TCW; Invesco; FIIA; Alliance; Wells Fargo; DFA; Heitman; JMB Realty; Balch-Hardy; Bankers; Columbine; Putnam; J.P. Morgan
Investment advisors: Mercer-Meidinger-Hansen; Wilshire Associates; Pension Realty Advisors

NEW HAMPSHIRE RETIREMENT SYSTEM
169 Manchester St., Bldg. 3
Concord, NH 03301
Contact: Harry M. Descoteau, Executive Secretary, (603) 271-3351

Information current as of 6/30/86

Total assets: $920.1 million
Common and preferred stock: $478.1 million
U.S. government securities and agencies: $218.2 million
Corporate bonds: $73.8 million
Mortgages: $26 million
Other real estate: $28.9 million (market)
Cash and short-term securities: $60.1 million
Other investments: Commingled funds, $200 thousand; convertible debt, $3.1 million; convertible preferred stock, $1.4 million
Discretionary investment managers: Amoskeag National Bank & Trust; BankEast Trust Co.; F. M. Alger Management Co.; Hallman, Jordan Management Co.; Indian Head National Bank; State Street Research & Management Co.; The Boston Company Institutional Investors, Inc.; Invesco Capital Management Co.; Investment Advisers, Inc.; Provident Investment Counsel Inc.; Putnam Advisory Company, Inc.; Trustee & Investors Compny Inc.

STATE OF NEW JERSEY, DIVISION OF INVESTMENT
CN 290
349 W. State St.
Trenton, NJ 08625
Contact: Roland Machold, Director, (609) 292-5106

Information current as of 6/30/86; all figures at market value

Total assets: $20.8 billion
Common and preferred stock: $7.9 billion
U.S. government securities and agencies: $4.2 billion
Corporate bonds: $2.4 billion
Mortgages: $1.8 billion—government backed, $1.7 billion
Cash and short-term securities: $4.5 billion
Percent of fund internally managed: 100%

NEW MEXICO PUBLIC EMPLOYEES' RETIREMENT ASSOCIATION
P.O. Box 2123
Santa Fe, NM 87504-2123
Contact: Judith K. Alderson, Director, (505) 827-4700

Information current as of 12/31/86

Total assets: $1.2 billion
Common and preferred stock: $373.2 billion
U.S. government securities and agencies: $317.8 billion
Corporate bonds: $236.2 million
Mortgages: $104.8 million—privately held, $4.4 million; government backed, $100.4 million
Other real estate: $15 million at market value
Cash and short-term securities: $145 million
Percent of fund internally managed: 1.5%
Discretionary investment managers: Invesco Capital Management Co.; Criterion Investment Management Co.; Fiduciary Trust Co. of NY; Wentworth, Hauser & Violich; Loomis, Sayles & Co.

NEW YORK STATE EMPLOYEES' RETIREMENT SYSTEM
NEW YORK STATE POLICEMEN'S AND FIREMEN'S RETIREMENT SYSTEM
Alfred E. Smith State Office Building
Albany, NY 12236
Contact: William M. Barrett, Director of Equity & Fixed Income Investments, (518) 473-6396

Information current as of 12/31/86

Total assets: $27.5 billion
Common and preferred stock: $11 billion
U.S. government securities and agencies: $6.7 billion
Corporate bonds: $3 billion
Mortgages: $2.8 billion—privately held, $1.2 billion; government backed, $1.6 billion
Other real estate: $60.8 million - equity real estate
Cash and short-term securities: $922 million
Other investments: Venture capital - $55.8 million; Leveraged buyouts - $104 million
Percent of fund internally managed: 86%
Discretionary investment managers: Equity Managers - Alliance Capital Management Corp.; Capital Guardian Trust Co.; Delaware Investment Advisers; Equitable Investment Management Corp.; Lazard Freres; Lord, Abbett; Miller, Anderson & Sherrerd; Oppenheimer Capital Corp., J. & W. Seligman & Company, Inc.; Shearson Asset Management; Wells Fargo Investment Advisors. Equity Real Estate - Eastdil Corp. Partners; Goldman Sachs Institutional Properties; Corporate Property Investors; Retail Property Trust (J. W. O'Connor); LaSalle Fund III; JMB Group Trust IV; Separate Account R (CIGNA); Midamerica/East V (RREEF). Leverage Buyouts - Kohlberg, Kravis, Roberts; Forstmann Little. Venture Capital - New York State Business Venture Partnership; APA Excelsior; Montgomery Bridge II; Peregrine Ventures II; U.S. Venture Partners II; Bridge Capital Investors II; Crossroads Capital.
Investment advisors: Fixed income - U.S. Trust Co.; Real estate - Pension Realty Advisors

NEW YORK STATE TEACHERS' RETIREMENT SYSTEM
10 Corporate Woods Drive
Albany, NY 12211-2395

Information current as of 3/31/87

Total assets: $18 billion
Common and preferred stock: $7.2 billion
U.S. government securities and agencies: $3.7 billion
Corporate bonds: $3.4 billion
Mortgages: $1.7 billion—privately held, $628 million; government backed, $1 million
Other real estate: $305 million
Cash and short-term securities: $469 million
Other assets: $1.2 billion
Percent of fund internally managed: 87%
Discretionary investment managers: Beutel, Goodman Capital Management Ltd.; General American Advisors, Inc.; Glickenhaus and Company; Lehman Management Company, Inc.; Manufacturers Hanover Investment Corporation; Oppenheimer Capital Corporation; Sanford C. Bernstein and Company, Inc.

NORTH CAROLINA RETIREMENT SYSTEMS
325 N. Salisbury St.
Raleigh, NC 27611
Contact: C. Douglas Chappell, Director, (919) 733-3211

Information current as of 6/30/86

Total assets: $10.2 billion
Common and preferred stock: $2.1 billion
U.S. government securities and agencies: $2.2 billion
Corporate bonds: $4.5 billion
Mortgages $783 million
Other real estate: $125 million (real estate managers)
Cash and short-term securities: $128 million

Percent of fund internally mananged: 99%
Discretionary investment managers: Real estate managers—Aetna Life Insurance Co.; CIGNA Capital Advisors; Goldman Sachs; Security Capital
Investment advisors—Equity: Alliance Capital; Thorndike, Doran, Paine & Lewis; NCNB; Wachovia; First Citizens; First Union

NORTH DAKOTA PUBLIC EMPLOYEES RETIREMENT SYSTEM
P.O. Box 1214
Bismarck, ND 58502
Contact: Leroy Gilbertson, Deputy Director/Investment Officer, (701) 224-4500

Information current as of 3/22/86; all figures at market value

Total assets: $284 million
Common and preferred stock: 55%
U.S. government securities and agencies, corporate bonds and mortgages: 45%
Cash and short-term securities: 2%
Other investments: International 8%
Discretionary investment managers: Lehman Management; Criterion; Western Asset; Fred Alger; Sanford Bernstein; Investment Advisers; John McStay; State Street
Investment advisor: Callan Associates

NORTH DAKOTA TEACHERS' FUND FOR RETIREMENT
Box 7100
Bismarck, ND 58502
Contact: Scott Engmann, Executive Director, (701) 224-4500

Information current as of 3/31/87; all figures at market value except where noted

Total assets: $315 million
Common and preferred stock: Common $67.3 million; Preferred $175 thousand
U.S. government securities and agencies: $177.2 million (cost)
Corporate bonds: $29.5 million (cost)
Mortgages: $4 million (cost)
Cash and short-term securities: $33.4 million (cost)
Discretionary investment managers: Wilshire Asset Management (S&P 500); Delaware, Invesco (equity); Bear Stearns, Criterion, Sanford Bernstein, Bank of North Dakota (fixed)
Investment advisor: Callan Assoc. Inc.

OHIO SCHOOL EMPLOYEES' RETIREMENT SYSTEM
45 North Fourth St.
Columbus, OH 43215
Contact: Paul M. Kubinsky, Director of Investments, (614) 221-7012

Information current as of 12/31/86; all figures at cost

Total assets: $1.9 billion
Common and preferred stock: $597.9 million
U.S. government securities and agencies: $199.1 million
Corporate bonds: $280.8 million
Mortgages: $364.2 million—government backed
Other real estate: $317.3 million
Cash and short-term securities: $148.5 million
Other investments: Venture capital, $14.8 million
Percent of fund internally managed: 75%
Investment advisor: Mellon Capital Management Corp.

HIGHWAY PATROL RETIREMENT SYSTEM OF OHIO
4795 Evanswood Dr.
Columbus, OH 43213
Contact: Dean Huffman, Executive Director, (614) 466-2268

Information current as of 2/28/87

Total assets: $130.8 million
Common and preferred stock: $36.1 million
U.S. government securities and agencies: $44.3 million
Corporate bonds: $29 million
Mortgages: $19.4 million—GNMAs
Cash and short-term securities: $2 million
Percent of fund internally managed: 100%
Investment advisor: Duff & Phelps

OREGON PUBLIC EMPLOYEES' RETIREMENT SYSTEM
P.O. Box 73
Portland, OR 97207-0073
Contact: James C. George, Investment Manager, (503) 378-4111

Information current as of 12/31/86; all figures at market value except where noted

Total assets: $7.3 billion
Common and preferred stock: $3.1 billion
U.S. government securities and agencies: $852 million (cost)
Corporate bonds: $1.2 billion
Mortgages: $355 million
Other real estate: $225 million
Cash and short-term securities: $225 million
Other investments: Commercial paper, $21.8 million (cost); Canadian government bonds, $69.8 million (cost); international fund, $493.8 million; Alex. Brown Realty, $41.3 million; Koger Co., $2.4 million; Fred Meyer Ltd. Pr., $91.4 million; KKR LBO Funds, $180.8 million; RLAC LBO Funds, $11.4 million; venture capital, $59.4 million; variable annuity fund, $330.7 million
Percent of fund internally managed: 32%
Discretionary investment managers: International—ABD International; Cursitor-Eaton; Globe Finlay; Nomura Capital; Rowe-Price Fleming; Wertheim-Philippe. Domestic—Atalanta-Sosnoff; Batterymarch; BEA Associates; Columbia Management; Cutler & Co., Froley, Revy; General American; Geo. Springman; Harris Associates, Hotchkiss & Wiley; Olympic Capital; Pinnacle Associates; Quest Advisory; Rosenberg; Sarofim; Thompson/Rubenstein; Witter.
Investment advisors: Wilshire Associates, Frank Russell Trust Company, Alex. Brown Realty Advisors.

PENNSYLVANIA STATE EMPLOYEES' RETIREMENT SYSTEM
909 Green St.
Harrisburg, PA 17102-2999
Contact: David D. Burnett, Investment Analyst, (717) 787-9008

Information current as of 1/31/87; all figures at market value

Total assets: $7.4 billion
Common and preferred stock: $3.4 billion
Bonds: $2.3 billion
Mortgages and mortgage-backed securities: $699 million
Other real estate: $390 million
Cash and short-term securities: $574.5 million
Other investments: Venture Capital $35.4 million
Percent of fund internally managed: 8% (cash and short-term managed by the state treasurer)
Discretionary investment managers: Fred Alger; Alliance Capital Management Co.; Barrow Hanley; First Pennsylvania Bank; Geewax, Terker & Co.; Glickenhaus and Co.; McGinn; Mellon; Pilgrim, Baxter, Greig and Associates; Trinity; Wells Fargo; Delaware Investment Advisers; W. R. Huff; Miller, Anderson & Sherrerd; Payden & Rygel; Fidelity; Aetna; Corporate Property Investors; F.I.A. Associates, Inc.; John Hancock; JMB; Prudential; Security Capital; Butcher & Singer; Fostin Capital Associates; Genesis Seed Fund, Ltd.; NEPA Venture Fund, L.P.; Pittsburgh Seed Fund; PNC Venture Group; TDH II Limited.
Investment advisors: Wilshire Associates and Ronald A. Karp Associates

SOUTH CAROLINA RETIREMENT SYSTEM
P.O. Box 11778
Columbia, SC 29211
Contact: Mrs. Shakun Tahiliani, Investment Director, (803) 734-2101

Information current as of 12/31/86; all figures at market value

Total assets: $4.9 billion
Common and preferred stock: None
U.S. government securities and agencies: $2.7 billion
Corporate bonds: $1.1 billion
Mortgages: $711.6 million—privately held, $143.2 million; government backed, $568.4 million
Other real estate: None
Cash and short-term securities: $328.9 million
Other investments: Municipals, $1.6 million
Percent of fund internally managed: 100%
Investment advisor: Jamison Eaton & Wood

SOUTH DAKOTA RETIREMENT SYSTEM
216 East Capital
Pierre, SD 57501
Contact: Jeff Miller, Investment Analyst, (605) 773-3731

Information current as of 6/30/86

Total assets: $771 million
Common and preferred stock: $242 million
U.S. government securities and agencies: $132 million
Corporate bonds $91 million
Mortgages: $127 million—government backed
Other real estate: $24 million
Cash and short-term securities: $113 million
Other investments: International, $6 million; equity mutual funds, $6 million; arbitrage/liquidation, $30 million
Percent of fund internally managed: 85%
Discretionary investment managers: Frank Russell; Dreman Embry; Trinity; Bear Stearns; Wachovia; Security Capital; Smith Vasilion

TENNESSEE CONSOLIDATED RETIREMENT SYSTEM
P.O. Box 2867
Nashville, TN 37219
(615) 741-2643

Information current as of 3/31/87; all figures at book value

Total assets: $5.3 billion
Common and preferred stock: $1.5 billion
U.S. government securities and agencies: $904.2 million
Corporate bonds: $1.1 million
Mortgages: $533.7 million—privately held, $2.9 million; government backed, $530.8 million

Cash and short-term securities: $951.5 million
Other investments: International bonds $127.3 million; international stocks, $101.2 million
Percent of fund internally managed: 100%

EMPLOYEES RETIREMENT SYSTEM OF TEXAS
P.O. Box 13207
Austin, TX 78711
Contact: Nancy G. Goerdel, Deputy Director of Investments, (512) 476-6431

Information current as of 2/28/87; all figures at market value

Total assets: $4.7 billion
Common and preferred stock: $958 million
U.S. government securities and agencies: $2.3 billion
Corporate bonds: $858 million
Mortgages: $479 million—government backed, $479 million (pass-throughs)
Cash and short-term securities: $159 million
Percent of fund internally managed: 100%
Investment advisors: Invesco Capital Management (equities); Duff & Phelps Investment Management (fixed income)

TEACHER RETIREMENT SYSTEM OF TEXAS
1001 Trinity St.
Austin, TX 78701
Contact: Joe W. Perrone, Chief Investment Officer, (512) 397-6460

Information current as of 2/28/87; all figures at cost

Total assets: $14.1 billion
Common and preferred stock: $4.1 billion
U.S. government securities and agencies: $3.2 billion
Corporate bonds: $3.3 billion
Mortgages: $1.7 billion—privately held, $223 million; government backed: $1.5 billion
Other real estate: $1.4 billion
Cash and short-term securities: $365 million
Percent of fund internally managed: 100%
Investment counsel: Thorndike Doran Paine & Lewis

VIRGINIA SUPPLEMENTAL RETIREMENT SYSTEM
P.O. Box 6-C
Richmond, VA 23214
Contact: Timothy R. Barron, Director of Investments, (804) 344-3157

Information current as of 4/1/87; all figures at market value

Total assets: $7.2 billion
Common and preferred stock: $4.1 billion
U.S. government securities and agencies: $1.2 billion
Corporate bonds: $538.6 million
Mortgages: $194.2 million—government backed
Other real estate: $253.7 million
Cash and short-term securities: $923.7 million
Other investments: $11.2 million investment in state office buildings
Percent of fund internally managed: 15%
Discretionary investment managers: Ardsley Partners; Brignoli, Curley & Roberts; Concord Capital Management; Corinthian Capital Company; DCM Advisers; Delaware Investment Advisors; Fidelity Management Trust Company; GAMCO Investors, Inc.; Hellman, Jordan Management Company, Inc.; IDS Advisory Group; Jundt/Capen Associates; Lincoln Capital Management; Loomis, Sayles & Co., Inc.; McKenzie, Walker Investment Management; Mellon Capital Management Corporation; Nicholas-Applegate Capital Management; Pacific Financial Research; Rosenberg Institutional Equity Management; Schafer Capital Management Company; Donald Smith & Co., Inc., Wells Fargo Investment Advisors; Sanford C. Bernstein & Co., Inc.; Lehman Management Co., Inc.; MacKay-Shields Financial Corporation; Massachusetts Financial Services Company; Merganser Capital Management Corporation; Security Capital Management, Inc.; Sovran Capital Management Corporation; Equitable Life Assurance Society of the U.S.; LaSalle Advisors; J. P. Morgan Investment Management; New England Mutual Life; Phoenix Mutual Life; Prudential Insurance Corporation of America; The RREEF Corporation; Internal management

WEST VIRGINIA PUBLIC EMPLOYEES RETIREMENT SYSTEM
Capitol Complex, Bldg. 5, Room 1052
Charleston, WV 25305
Contact: Kathy Lester, Director of Investments, State Treasurer's Office, Room E-120, State Capitol Bldg., Charleston, WV 25305, (304) 346-9100

Information current as of 3/31/87

Total assets: $941.2 million
Common and preferred stock: None
U.S. government securities and agencies: $673.2 million
Corporate bonds: $137 million
Mortgages: $62 million—privately held, $24.8 million; government backed, $37.2 million
Cash and short-term securities: $69 million
Percent of fund internally managed: 20%
Investment advisor: Investment Advisers, Inc.

WEST VIRGINIA TEACHERS' RETIREMENT SYSTEM
Capitol Complex, Bldg. 5
Charleston, WV 25305
Contact: Kathy Lester, Director of Investments, State Treasurer's Office, Room E-120, State Capitol Bldg., Charleston, WV 25305, (304) 346-9100

Information current as of 3/31/87

Total assets: $285.7 million
Common and preferred stock: None
U.S. government securities and agencies: $235 million
Corporate bonds: $16 million
Mortgages: $50 million—government backed
Cash and short-term securities: $9 million
Percent of fund internally managed: 20%
Investment advisor: Duff & Phelps

STATE OF WISCONSIN INVESTMENT BOARD
121 E. Wilson St.
P.O. Box 7842
Madison, WI 53707
Contact: Patricia Lipton, Executive Assistant, (608) 266-9451

Information current as of 2/28/87

Total assets: $15.2 billion (market)
Common and preferred stock: $6.1 billion
Public bonds: $3.6 billion
Mortgages: $138 million
Other real estate: Equity: $222 million
Cash and short-term securities: $2.4 billion
Other investments: Private placements, $2.6 billion; LBOs, $100 million; Venture capital, $26 million
Percent of fund internally managed: 100%

Cases & Rulings

Continued from page 34

provisions of ERISA itself.

We can expect that, in the near future, federal district courts will apply the principles of *Fort Halifax* and *Pilot* to other cases. The application of the *Fort Halifax* "administrative scheme" test will be of particular interest in determining whether an employee benefit plan exists. We will continue to follow these and other important preemption issues in future articles. □

FOOTNOTES

1. *See, e.g.*, the statement of Rep. Dent, "With the preemption of the field, we round out the protection afforded participants by eliminating the threat of conflicting and inconsistent State and local regulation." 120 Cong. Rec. 29,197 (1974), *as cited in Shaw v. Delta Air Lines, Inc.*, 463 U.S. 85, 99 (1983).

2. A procedural preemption case, *Metropolitan Life Ins. Co. v. Taylor*, 55 U.S.L.W. 4468 (April 7, 1987), was decided the same day as *Pilot*. In *Taylor*, the Court found that any civil complaint raising an ERISA claim is federal in character and that it can be removed from state to federal court, even though the federal cause of action may not have been pleaded on the face of the complaint.

3. 55 U.S.L.W. at 4700 n. 1.

4. In support of its NLRA preemption argument, Fort Halifax contended that the Maine Law was an "additional restriction on economic weapons of self-help" prohibited by *Golden State Transit Corp. v. City of Los Angeles*, 475 U.S. 608 (1986). The Court observed that the statute establishes only a minimum substantive labor standard and that the parties are expressly allowed to negotiate for a different severance benefit. Therefore, there was no conflict with the mandate of the NLRA. *Id.* at 4706-07.

5. *Id.* at 4701.

6. *Id.*

7. *Id.*

8. 765 F.2d 320 (2d Cir. 1985), *summarily aff'd.*, 106 S. Ct. 3267 (1986).

9. 55 U.S.L.W. at 4704 n. 10.

10. 29 U.S.C. Sec. 1144(b)(2)(A). State laws regulating banking and securities also are saved from preemption by this provision.

11. 770 F.2d 1311 (1985).

12. *Metropolitan Life Insurance Co. v. Massachusetts*, 471 U.S. 724 (1985); *Shaw v. Delta Airlines*, 463 U.S. 85 (1983).

13. 15 U.S.C. Secs. 1011-15.

14. Sec. 502 of ERISA, 29 U.S.C. Sec. 1132.

Current Issues In Plan Design

States grapple with health care cost crunch

States have made great strides in meeting the objective of containing the costs of their employee health benefit plans. A wide variety of cost management techniques are utilized by state employee health benefit plans and these cost management efforts have been a key factor responsible for holding down plan costs.

Martin E. Segal Company's 1987 update of its survey of state employee health benefit plans indicates that, for the second year in a row, the increase in the average cost of state plans was substantially less than the rise in national medical care costs as measured by the Consumer Price Index (CPI). Many state plans have realized significant savings by instituting cost management programs and incentives for more cost-effective health care.

In early 1987 the Segal Company's survey was updated to provide current information on plan participants and monthly contributions to the 50 state employee health benefit plans. The four 1987 update tables show plan participants and HMO participation as of January 1987 (Table 1), and contributions to each of the 50 state plans for January 1986 and January 1987 (Tables 2 through 4). In addition, Tables 2 through 4 show the percentage of the total cost paid by each state in 1987 and 1986 for employee only coverage, employee and family coverage, and retiree only coverage.

Tables 2 through 4 present contribution data for basic plans and do not include the numerous HMOs offered to state employees. For states with multiple benefit plans, the tables generally show contributions for only the "low" and "high" basic plans. Figures regarding average costs for the 50 state plans and the distribution of plans by the percentage of the total cost paid by the state are based on the low plan, where applicable.

Although averages conceal the very wide diversity in state employee health plan benefits and costs, the average total cost for employee only coverage increased approximately 5.3 percent between January 1986 and January 1987; this increase was about seven-tenths of the 7.5 percent rise in the medical component of the CPI during the same twelve months. For employee and family coverage, the average total cost for the 50 state plans increased 4.8 percent, or by less than two-thirds of the 7.5 percent increase in national medical care costs during the year ended January 1987. The average cost of providing health care benefits for a single retiree increased 4.6 percent, or by a slightly smaller percentage than the cost of family coverage.

Plan Participants (Table 1)

As of January 1987, the 50 state health benefit plans covered more than 3½ million active employees and retirees. The totals of the figures shown in Table 1 are 2,834,000 covered employees and 670,200 covered retirees. For three states—California, New Jersey, and New York—the figures shown in Table 1 are for state employees and retirees only, and exclude the thousands of local government employees covered by these three state-administered plans. Therefore, the total number of employees and retirees covered by the 50 state plans probably exceeds four million.

HMO participation varies widely among the 50 states, as shown in Table 1. The number of HMOs offered ranges from zero in eight states to more than 10 in 14 states. States that offer 25 or more HMOs include California, Florida, New York, Ohio, and Wisconsin.

Approximately 828,000 or almost 30 percent of the 2.8 million employees covered by the 50 state plans are enrolled in HMOs. The percentage of employees enrolled in HMOs varies dramatically, from less than 10 percent in 15 states to more than 50 percent in five states: Arizona (57 percent), California (61 percent), Colorado (58 percent), Illinois (64 percent), and Wisconsin (74 percent).

by **JOHN P. MACKIN**
Senior Vice President
Martin E. Segal Company
New York, N.Y.

Employee Only (Table 2)

Almost two-thirds of the states currently pay 100 percent of the cost for employee only coverage under at least one basic plan. Between 1986 and 1987 the distribution of plans by the state's share of the total cost for employee only coverage changed as follows:

State's Share of Total Cost	Number of State Plans 1986	1987
100%	30	32
90% - 99%	8	6
80% - 89%	8	8
70% - 79%	2	2
Less than 70%	2	2

Table 1 Participants in State Employee Health Benefit Plans as of January 1987

State	Employees Covered by Plan [a]	Retirees Covered by Plan [b]	HMO Participation: Number of HMOs Offered	HMO Participation: Employees Enrolled in HMOs: Number	HMO Participation: Employees Enrolled in HMOs: Percent
Alabama	33,000	5,900	2	700	2%
Alaska	13,000	7,600	0	0	0
Arizona	37,400	3,200	4	21,200	57
Arkansas	19,000	3,000	0	0	0
California [c]	164,600	64,900	29	100,200	61
Colorado	22,400	[d]	17	13,000	58
Connecticut	45,000	7,000	6	6,000	13
Delaware	25,000	5,000	2	5,200	21
Florida	103,500	10,300	61	38,000	37
Georgia	149,000	28,600	5	17,400	12
Hawaii	34,700	18,800	3	9,600	28
Idaho	12,500	2,000	0	0	0
Illinois	119,500	41,000	22	76,900	64
Indiana	31,200	0 over 65	5	14,000	45
Iowa	26,300	2,100	6	2,000	8
Kansas	35,700	6,200	8	11,700	33
Kentucky	109,000	4,500	14	40,500	37
Louisiana	64,000	25,500	7	18,000	28
Maine	14,000	6,000	0	0	0
Maryland	51,000	15,000	14	16,000	31
Massachusetts	90,900	38,100	19	44,000	48
Michigan	56,000	20,700	20	23,900	43
Minnesota	50,000	7,500	9	18,900	38
Mississippi	43,000	4,000	0	0	0
Missouri	30,000	5,100	7	4,400	15
Montana	10,000	1,600	0	0	0
Nebraska	12,000	0	4	2,000	17
Nevada	13,500	1,800	2	4,300	32
New Hampshire	9,000	1,100	4	600	7
New Jersery [c]	88,400	14,300	16	28,500	32
New Mexico	18,000	2,200	3	4,000	22
New York [c]	239,000	76,000	25	59,000	25
North Carolina	200,700	57,500	3	41,000	20
North Dakota	12,000	2,000	3	500	4
Ohio	50,500	[d]	34	24,100	48
Oklahoma	37,500	6,500	3	10,000	27
Oregon	22,500	4,200	7	6,300	28
— BUBB Plan	16,500	3,000	5	8,000	48
Pennsylvania	85,000	44,000	20	10,400	12
Rhode Island	17,000	7,500	3	7,400	44
South Carolina	125,200	26,100	4	29,800	24
South Dakota	11,100	400	0	0	0
Tennessee	57,100	2,200	2	4,300	8
Texas	109,000	20,000	14	31,000	28
Utah	12,500	3,500	2	2,500	20
Vermont	6,000	1,800	1	30	1
Virginia	84,500	16,700	7	9,500	11
Washington	70,000	15,000	7	23,000	33
West Virginia	84,000	16,000	2	1,000	1
Wisconsin	53,000	13,000	30	39,200	74
Wyoming	10,300	1,800	0	0	0

[a] Approximate total number of covered employees, including employees enrolled in HMOs.
[b] Approximate total number of covered retirees.
[c] Participants shown are State employees and retirees only (i.e., figures exclude local employees and retirees).
[d] Retired State employees are covered by a separate health benefit plan for all retired members of the statewide public employees retirement system.

During the year ended January 1987, the total cost for employee only coverage increased in 23 states, remained the same in 21 states, and decreased in six states. This is generally similar to last year's experience, when the comparable figures were 24, 17 and 10, respectively.

The average total cost for employee only coverage increased to $82.09 for January 1987 from $77.95 for January 1986. While the percentage changes in an individual plan's costs varied substantially, the 5.3 percent increase in the average total cost for employee only coverage was about seven-tenths of the 7.5 percent rise in national medical care costs as measured by the CPI.

Employee and Family (Table 3)

Fewer than one-fourth of the states pay for the full cost of health benefits for employees and their dependents. The distribution of state plans by the state's share of the total cost for employee and family coverage changed only slightly between 1986 and 1987.

State's Share of Total Cost	Number of State Plans: 1986	Number of State Plans: 1987
100%	12	12
90% - 99%	4	4
80% - 89%	7	7
70% - 79%	6	6
60% - 69%	5	6
50% - 59%	7	6
Less than 50%	9	9

As of January 1987, 21 states were paying less than 70 percent of the total cost for employee and family coverage under the low option plan. In nine of these 21 states, the state's share was less than half the total cost for family coverage.

Among the 38 state plans where employees contribute for employee and family coverage, the average employee cost was $66.09 for January 1987. In six of these 38 states, the employee's out-of-pocket cost for family coverage exceeds $100 a month.

For the 50 state plans the average total cost for family coverage increased 4.8 percent—to $188.62 for January 1987 from $179.97 for January 1986. The percentage increase in the average total cost for family coverage was less than two-thirds of the 7.5 percent increase in the medical component of the CPI.

Tables follow

Text continued on page 60

Table 2 **Monthly Contributions to State Employee Health Benefit Plans**
January 1986 and January 1987
Employee Only Coverage

State	Cost to Employee		Cost to State		Total Cost		Percent of Total Cost Paid by State	
	1986	1987	1986	1987	1986	1987	1986	1987
Alabama	0	0	105.00	125.00	105.00	125.00	100.0%	100.0%
Alaska	0	0	222.60	222.60	222.60	222.60	100.0	100.0
	0	0	237.75	237.75	237.75	237.75	100.0	100.0
Arizona	1.00	1.00	79.46	86.78	80.46	87.78	98.8	98.9
Arkansas	8.36	9.26	62.50	70.00	70.86	79.26	88.2	88.3
	25.40	28.20	62.50	70.00	87.90	98.20	71.1	71.3
California	0	0	71.61	77.22	71.61	77.22	100.0	100.0
	39.39	54.78	85.00	88.00	124.39	142.78	68.3	61.6
Colorado	8.12	10.00	57.00	55.12	65.12	65.12	87.5	84.6
Connecticut	0	0	89.30	100.80	89.30	100.80	100.0	100.0
Delaware	0	0	72.48	77.08	72.48	77.08	100.0	100.0
	19.06	20.30	72.48	77.08	91.54	97.38	79.2	79.2
Florida	15.18	15.18	65.20	65.20	80.38	80.38	81.1	81.1
Georgia	13.60	13.60	62.65	68.55	76.25	82.15	82.2	83.4
	26.65	23.40	62.65	68.55	89.30	91.95	70.2	74.6
Hawaii	18.22	18.22	27.34	27.34	45.56	45.56	60.0	60.0
Idaho	0	0	69.52	69.52	69.52	69.52	100.0	100.0
Illinois	0	0	75.24	73.32	75.24	73.32	100.0	100.0
Indiana	1.58	1.58	72.45	72.45	74.03	74.03	97.9	97.9
Iowa	0	0	68.24	75.06	68.24	75.06	100.0	100.0
Kansas	0	0	78.53	92.55	78.53	92.55	100.0	100.0
Kentucky	0	0	60.22	69.79	60.22	69.79	100.0	100.0
Louisiana	39.52	39.52	39.52	39.52	79.04	79.04	50.0	50.0
Maine	0	0	72.56	72.92	72.56	72.92	100.0	100.0
Maryland	10.22	11.51	57.92	65.25	68.14	76.76	85.0	85.0
	19.54	22.37	57.92	65.25	77.46	87.62	74.8	74.5
Massachusetts	10.22	11.65	91.95	104.84	102.17	116.49	90.0	90.0
Michigan	11.12	11.12	100.14	100.14	111.26	111.26	90.0	90.0
Minnesota	0	0	73.00	69.70	73.00	69.70	100.0	100.0
Mississippi	0	0	72.00	72.00	72.00	72.00	100.0	100.0
Missouri	0	0	69.00	69.00	69.00	69.00	100.0	100.0
Montana	0	0	96.20	97.60	96.20	97.60	100.0	100.0

Table 2 **Employee Only Coverage (Cont'd.)**

State	Cost to Employee		Cost to State		Total Cost		Percent of Total Cost Paid by State	
	1986	1987	1986	1987	1986	1987	1986	1987
Nebraska	0	0	41.25	41.25	41.25	41.25	100.0%	100.0%
	11.26	11.26	44.47	44.47	55.73	55.73	79.8	79.8
Nevada	0	0	129.20	129.20	129.20	129.20	100.0	100.0
New Hampshire	0	0	67.96	78.01	67.96	78.01	100.0	100.0
New Jersery	0	0	58.93	65.89	58.93	65.89	100.0	100.0
New Mexico	15.30	16.55	45.88	49.63	61.18	66.18	75.0	75.0
	24.48	26.48	36.70	39.70	61.18	66.18	60.0	60.0
New York	7.51	8.64	67.66	77.86	75.17	86.51	90.0	90.0
	9.07	10.06	83.15	91.99	92.22	100.63	90.0	91.4
North Carolina	0.26	0	63.82	63.82	64.08	63.82	99.6	100.0
North Dakota	0	0	60.00	60.00	60.00	60.00	100.0	100.0
Ohio	25.50	25.50	68.95	68.95	94.45	94.45	73.0	73.0
Oklahoma	0	0	115.31	115.31	115.31	115.31	100.0	100.0
Oregon	0	0	72.46	90.68	72.46	90.68	100.0	100.0
— BUBB Plan	0	0	144.90	153.59	144.90	153.59	100.0	100.0
Pennsylvania	0	0	57.81	56.15	57.81	56.15	100.0	100.0
	0	0	70.50	70.03	70.50	70.03	100 0	100.0
Rhode Island	0	0	77.97	96.71	77.97	96.71	100.0	100.0
South Carolina	0	0	62.29	67.27	62.29	67.27	100.0	100.0
	7.02	7.58	62.29	67.27	69.31	74.85	89.9	89.9
South Dakota	0	0	53.42	53.42	53.42	53.42	100.0	100.0
Tennessee	11.70	11.70	46.82	46.82	58.52	58.52	80.0	80.0
Texas	0	0	66.29	66.29	66.29	66.29	100.0	100.0
Utah	8.25	8.25	74.25	74.25	82.50	82.50	90.0	90.0
Vermont	8.65	10.85	34.58	43.40	43.23	54.25	80.0	80.0
Virgina	0	0	71.16	78.36	71.16	78.36	100.0	100.0
Washington	0	0	64.52	64.52	64.52	64.52	100.0	100.0
West Virginia	0	0	79.95	79.95	79.95	79.95	100.0	100.0
Wisconsin [a]	12.31	16.29	72.69	77.02	85.00	93.31	85.5	82.5
Wyoming	5.94	0	100.00	100.00	105.94	100.00	94.4	100.0

[a] Contributions vary by benefit plan and by county. State pays lesser of 90% of standard plan rate or 105% of lowest cost HMO in employee's county. Rates shown in table are for standard plan in Dane County (Madison).

Where two sets of figures are listed for a state, they represent the "low" and "high" basic plans.

Table 3 **Monthly Contributions to State Employee Health Benefit Plans**
January 1986 and January 1987
Employee and Family Coverage

State	Cost to Employee		Cost to State		Total Cost		Percent of Total Cost Paid by State	
	1986	1987	1986	1987	1986	1987	1986	1987
Alabama	82.50	90.00	105.00	125.00	187.50	215.00	56.0%	58.1%
Alaska	0	0	222.60	222.60	222.60	222.60	100.0	100.0
	0	0	237.75	237.75	237.75	237.75	100.0	100.0
Arizona	59.78	65.30	150.98	164.64	210.76	229.94	71.6	71.6
Arkansas	50.58	33.20	62.50	70.00	113.08	103.20	55.3	67.8
	77.54	89.20	62.50	70.00	140.04	159.20	44.6	44.0
California	0	0	193.57	198.26	193.57	198.26	100.0	100.0
	97.34	139.29	211.00	219.00	308.34	358.29	68.4	61.1
Colorado	117.12	119.00	57.00	55.12	174.12	174.12	32.7	31.7
Connecticut	44.56	50.46	193.34	217.96	237.90	268.42	81.3	81.2
Delaware	0	0	178.26	189.60	178.26	189.60	100.0	100.0
	45.90	48.78	178.26	189.60	224.16	238.80	79.5	79.5
Florida	55.64	55.64	122.80	122.80	178.44	178.44	68.8	68.8
Georgia	39.80	39.80	109.50	122.05	149.30	161.85	73.3	75.4
	66.00	59.46	109.50	122.05	175.50	181.51	62.4	67.2
Hawaii	56.03	56.03	84.05	84.05	140.08	140.08	60.0	60.0
Idaho	63.40	63.40	69.52	69.52	132.92	132.92	52.3	52.3
Illinois	67.18	67.18	96.32	82.98	163.50	150.16	58.9	55.3
	123.02	123.02	96.12	86.62	219.14	209.64	43.9	41.3
Indiana	36.66	36.66	178.01	178.01	214.67	214.67	82.9	82.9
Iowa	57.76	59.12	99.20	113.54	156.96	172.66	63.2	65.8
Kansas	127.39	158.12	78.53	92.55	205.92	250.67	38.1	36.9
Kentucky	83.94	97.00	60.22	69.79	144.16	166.79	41.8	41.8
Louisiana	90.96	90.96	90.96	90.96	181.92	181.92	50.0	50.0
Maine	52.46	52.82	129.46	130.30	181.92	183.12	71.2	71.2
Maryland	30.08	33.83	170.48	191.73	200.56	225.56	85.0	85.0
	53.78	61.27	170.48	191.73	224.26	253.00	76.0	75.8
Massachusetts	22.16	25.61	199.48	230.47	221.64	256.08	90.0	90.0
Michigan	31.16	31.16	280.52	280.52	311.68	311.68	90.0	90.0
Minnesota	9.34	8.92	157.18	150.08	166.52	159.00	94.4	94.4
Mississippi	89.70	89.70	72.00	72.00	161.70	161.70	44.5	44.5
Missouri	151.75	151.75	69.00	69.00	220.75	220.75	31.3	31.3
Montana	61.20	57.60	105.00	115.00	166.20	172.60	63.2	66.6

Table 3 **Employee and Family Coverage (Cont'd.)**

State	Cost to Employee		Cost to State		Total Cost		Percent of Total Cost Paid by State	
	1986	1987	1986	1987	1986	1987	1986	1987
Nebraska	0	0	147.68	147.68	147.68	147.68	100.0%	100.0%
	39.95	39.95	159.23	159.23	199.18	199.18	79.9	79.9
Nevada	69.73	83.90	129.20	129.20	198.93	213.10	64.9	60.6
New Hampshire	0	0	183.50	210.62	183.50	210.62	100.0	100.0
New Jersery	0	0	143.83	160.56	143.83	160.56	100.0	100.0
New Mexico	39.57	42.40	118.69	127.19	158.26	169.59	75.0	75.0
	63.31	67.84	94.95	101.75	158.26	169.59	60.0	60.0
New York	29.19	33.70	132.77	153.12	161.96	186.86	82.0	82.0
	34.53	39.16	163.33	183.32	197.86	217.02	82.5	84.5
North Carolina	89.54	89.28	63.82	63.82	153.36	153.10	41.6	41.7
North Dakota	0	0	168.00	168.00	168.00	168.00	100.0	100.0
Ohio	61.13	61.13	165.27	165.27	226.40	226.40	73.0	73.0
Oklahoma	108.00	108.00	115.31	115.31	223.31	223.31	51.6	51.6
Oregon	0	0	130.41	141.74	130.41	141.74	100.0	100.0
— BUBB Plan	0	0	144.90	153.59	144.90	153.59	100.0	100.0
Pennsylvania	0	0	139.33	140.81	139.33	140.81	100.0	100.0
	0	0	189.81	187.92	189.81	187.92	100.0	100.0
Rhode Island	0	0	207.86	235.66	207.86	235.66	100.0	100.0
South Carolina	61.12	66.02	62.29	67.27	123.41	133.29	50.5	50.5
	72.10	77.88	62.29	67.27	134.39	145.15	46.4	46.3
South Dakota	130.74	123.62	53.42	53.42	184.16	177.04	29.0	30.2
Tennessee	29.22	29.22	116.89	116.89	146.11	146.11	80.0	80.0
Texas	88.36	88.36	87.00	87.00	175.36	175.36	49.6	49.6
Utah	21.82	21.82	196.39	196.39	218.21	218.21	90.0	90.0
Vermont	23.99	30.11	95.98	120.45	119.97	150.56	80.0	80.0
Virginia	52.52	57.00	128.60	139.54	181.12	196.54	71.0	71.0
Washington	0	0	183.56	183.56	183.56	183.56	100.0	100.0
West Virginia	0	0	187.95	187.95	187.95	187.95	100.0	100.0
Wisconsin [a]	26.00	28.74	181.89	199.35	207.89	228.09	87.5	87.4
Wyoming	111.42	115.00	100.00	100.00	211.42	215.00	47.3	46.5

[a] Contributions vary by benefit plan and by county. State pays lesser of 90% of standard plan rate or 105% of lowest cost HMO in employee's county. Rates shown in table are for standard plan in Dane County (Madison).

Where two sets of figures are listed for a state, they represent the "low" and "high" basic plans.

Table 4 **Monthly Contributions to State Employee Health Benefit Plans**
January 1986 and January 1987
Retiree Only Coverage (Over 65 with Medicare)

State	Cost to Employee		Cost to State		Total Cost		Percent of Total Cost Paid by State	
	1986	1987	1986	1987	1986	1987	1986	1987
Alabama	34.35	0	22.35	60.00	56.70	60.00	39.4%	100.0%
Alaska	0	0	175.00	165.00	175.00	165.00	100.0	100.0
Arizona	67.68	73.84	0	0	67.68	73.84	0	0
Arkansas	41.50	43.00	0	0	41.50	43.00	0	0
California	0	0	51.70	54.05	51.70	54.05	100.0	100.0
	10.53	18.31	85.00	88.00	95.53	106.31	89.0	82.8
Colorado [a]	0	0	35.52	35.52	35.52	35.52	100.0	100.0
	35.52	35.52	0	0	35.52	35.52	0	0
Connecticut	25.59	22.93	20.94	34.38	46.53	57.31	45.0	60.0
Delaware	3.20	3.40	31.18	33.16	34.38	36.56	90.7	90.7
	21.36	22.72	31.18	33.16	52.54	55.88	59.3	59.3
Florida	55.30	55.30	0	0	55.30	55.30	0	0
Georgia	13.60	13.60	62.65	68.55	76.25	82.15	82.2	83.4
	26.65	23.40	62.65	68.55	89.30	91.95	70.2	74.6
Hawaii	0	0	53.64	53.64	53.64	53.64	100.0	100.0
Idaho	35.54	58.00	5.68	0	41.22	58.00	13.8	0
Illinois	0	0	75.24	73.32	75.24	73.32	100.0	100.0
Indiana	—	—	—	—	—	—	—	—
Iowa	31.90	35.10	0	0	31.90	35.10	0	0
Kansas	36.59	43.16	0	0	36.59	43.16	0	0
Kentucky	51.75	54.15	0	0	51.75	54.15	0	0
Louisiana	20.62	20.62	20.62	20.62	41.24	41.24	50.0	50.0
Maine	0	0	37.12	36.00	37.12	36.00	100.0	100.0
Maryland	7.90	9.35	44.76	52.99	52.66	62.34	85.0	85.0
	21.12	25.07	44.76	52.99	65.88	78.06	67.9	67.9
Massachusetts	6.65	6.20	59.86	55.84	66.51	62.04	90.0	90.0
Michigan	0	0	75.57	75.57	75.57	75.57	100.0	100.0
Minnesota	51.28	51.28	0	0	51.28	51.28	0	0
Mississippi	34.50	34.50	0	0	34.50	34.50	0	0
Missouri	33.75	32.25	3.00	4.50	36.75	36.75	8.2	12.2
	60.00	58.50	3.00	4.50	63.00	63.00	4.8	7.1
Montana	61.00	61.00	0	0	61.00	61.00	0	0

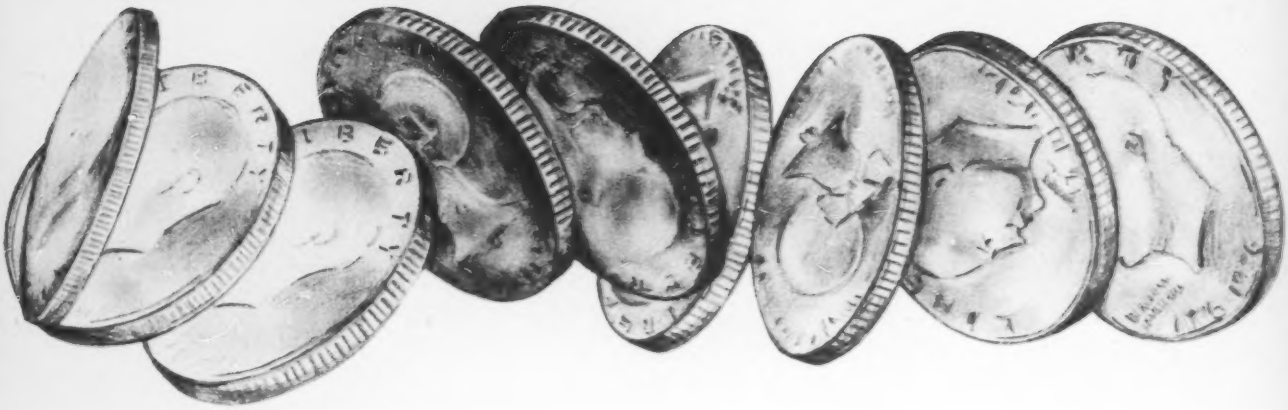


Table 4 **Retiree Only Coverage (Cont'd.)**

State	Cost to Employee		Cost to State		Total Cost		Percent of Total Cost Paid by State	
	1986	1987	1986	1987	1986	1987	1986	1987
Nebraska	—	—	—	—	—	—	—	—
Nevada	56.89	56.89	34.81	34.81	91.70	91.70	38.0%	38.0%
New Hampshire	0	0	40.00	44.02	40.00	44.02	100.0	100.0
New Jersey [b]	43.71	45.00	0	0	43.71	45.00	0	0
New Mexico	46.50	52.69	0	0	46.50	52.69	0	0
New York [c] [d]	9.07	10.06	81.59	90.57	90.66	100.63	90.0	90.0
North Carolina	0	0	48.58	48.58	48.58	48.58	100.0	100.0
North Dakota	50.00	50.00	0	0	50.00	50.00	0	0
Ohio	0	0	50.00	53.29	50.00	53.29	100.0	100.0
Oklahoma	45.90	45.90	0	0	45.90	45.90	0	0
Oregon	36.03	40.21	0	0	36.03	40.21	0	0
— BUBB Plan	43.78	53.92	0	0	43.78	53.92	0	0
Pennsylvania	0	0	57.78	49.09	57.78	49.09	100.0	100.0
	0	0	68.93	60.24	68.93	60.24	100.0	100.0
Rhode Island	41.37	41.37	0	0	41.37	41.37	0	0
South Carolina	0	0	54.04	67.27	54.04	67.27	100.0	100.0
	0	7.58	54.04	67.27	54.04	74.85	100.0	89.9
South Dakota	51.92	51.38	0	0	51.92	51.38	0	0
Tennessee	33.96	31.89	0	0	33.96	31.89	0	0
Texas	0	0	66.29	66.29	66.29	66.29	100.0	100.0
Utah	54.50	60.00	0	0	54.50	60.00	0	0
Vermont	3.54	4.45	14.17	17.78	17.71	22.23	80.0	80.0
Virginia	37.16	39.96	0	0	37.16	39.96	0	0
Washington	38.86	38.86	0	0	38.86	38.86	0	0
West Virginia	23.97	23.97	0	0	23.97	23.97	0	0
Wisconsin [c] [e]	57.15	65.32	0	0	57.15	65.32	0	0
Wyoming	44.12	54.12	0	0	44.12	54.12	0	0

[a] Portion of premium paid by Colorado Public Employees' Retirement Association varies from 0% for a retiree with less than six years' service to 100% for a retiree with 20 or more years' service.
[b] State pays total cost for employees who retire with 25 or more years of credited service or retire on a disability pension.
[c] Sick leave credits may be used by retirees to pay premiums.
[d] State pays total cost for employees who retired before 1983.
[e] Rates shown are for standard plan.

Where two sets of figures are listed for a state, they represent the "low" and "high" basic plans.

Current Issues

Text continued from page 53

Retiree Only (Table 4)

Table 4 shows 1987 and 1986 contributions for a single retiree age 65 or over with Medicare. Contribution data are presented for 48 instead of 50 plans, because Indiana and Nebraska do not offer retired employees the opportunity to continue to participate in the state health benefits plan.

Over half the states currently make no contributions toward the cost of retiree health care benefits. At the other end of the scale, 14 states pay for the full cost of coverage for a single retiree age 65 or over with Medicare.

The distribution of plans by the state's share of the total cost for retiree only coverage is summarized below:

State's Share of Total Cost	Number of State Plans 1986	1987
100%	13	14
90% - 99%	3	3
80% - 89%	3	3
40% - 60%	2	2
10% - 40%	4	2
0%	25*	26*

*Includes Indiana and Nebraska

Among the 48 state plans that make access to coverage available to retirees, the average cost of coverage for a single retiree 65 or over with Medicare was $54.68 for January 1987, or 4.6 percent higher than the $52.28 average for January 1986.

In many states, the growing number of politically-effective retired public employees will continue to lobby for legislation providing for payment by the state of a larger portion of the cost of their health care coverage. Over the next several years, we expect that some states will also establish programs to start funding retirees' health care benefits on a level cost basis during the employees' working years.

Cost management initiatives

State employee health benefit plans utilize a wide variety of cost management techniques, and these cost management initiatives have played a major role in holding down the rate of increase in average plan costs. Several states have recently implemented new cost-effective plan designs, with the dual objectives of providing more cost-effective care and making employees cost conscious health care consumers.

Precertification. Among state plans, the major new development in the area of health care cost management is the introduction of precertification programs. During the past two years, approximately two-fifths of the state plans have instituted some type of precertification or preadmission review program. In a growing number of state plans, the precertification program encompasses additional features such as hospital length of stay assignments, concurrent review and discharge planning.

PPOs. Preferred provider arrangements have been established by some 15 state employee health benefit plans. Many of these plans report that the PPO networks have produced significant savings in health care costs.

Second Opinions. Second surgical opinion programs are now common features of state plans. Many of these programs include incentive features like 100 percent reimbursement for second opinions, and several require second opinions for specified surgical procedures.

Outpatient Services. Incentives for outpatient surgery, and for diagnostic and preadmission tests performed on an outpatient basis, are included in more than a dozen state plans. The outpatient incentives adopted by state plans have contributed to the decrease in the use of much more costly hospital inpatient services.

Other Provisions. Other cost management provisions that have recently been introduced by state plans include: wellness benefits and incentives for healthier lifestyles; limitations on benefits for weekend admissions; audits of hospital and doctor bills; individual case management; home health care benefits; hospice benefits; and 100 percent reimbursement for generic drugs.

Many states have been successful in holding down the costs of their employee health benefit plans. The experience of state plans indicates that cost management initiatives can influence providers and make our health care system more cost effective. □

Ad Index

- ☐ Axe-Houghton Mgmt., Inc. 29
- ☐ CIGNA Corp. 11
- ☐ Corbel & Co. 23
- ☐ Dyatron Corp. 5
- ☐ Erisco, Inc. C3
- ☐ Heitman Advisory Corp. 1
- ☐ International Foundation of Employee Benefit Plans 31
- ☐ Metropolitan Life 13
- ☐ MONY C4
- ☐ Republic National Bank 7
- ☐ Salomon Brothers C2
- ☐ Software 2000, Inc. 3
- ☐ United Pacific Life Ins. 17, 18, 19
- ☐ Wilshire Assoc. 37

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European
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